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THE UNIVERSITY OF ALBERTA

AN ANALYSIS OF THE SOCIAL CHARACTERISTICS ASSOCIATED
WITH UNIVERSITY ATTENDANCE IN THE PROVINCE OF
ALBERTA, 1921-1961

by

VERA KILIAN CORFIELD

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES IN
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UNIVERSITY OF ALBERTA
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "An Analysis of the Social Characteristics Associated With University Attendance in the Province of Alberta, 1921-1961" submitted by Vera Kilian Corfield in partial fulfilment of the requirements for the degree of Master of Arts.

ABSTRACT

The purpose of this study was to determine the social characteristics associated with university attendance over the period 1921-61. Information on which this study was based was obtained from the records of the Office of the Registrar of the University of Alberta. A simple random sample of 450 students for one year in each decade was selected. The representativeness of students having certain social characteristics was determined by comparing the proportion in the student population to the proportion in the provincial population having these characteristics. Six independent variables were used: sex, age, marital status, religion, birthplace of father, place of residence, and socio-economic status.

The main findings are as follows:

1. The percentage of males attending university is greater than females for all time periods, but the disparity has narrowed over time. In 1961 the ratio is approaching 3:2.
2. The student population is getting younger. By 1961 over 50 per cent were under 19 years of age.
3. Jews are the most over-represented religious group in all time periods, followed by Protestants. Until 1961 Catholics were under-represented. The trend is for equalization of representation of all religious groups.
4. Children of British-born fathers are best represented at university. American-, Canadian-, and European-born fathers are represented in that order with little disparity between the three.

5. For all time periods urban areas are over-represented and rural under-represented, but the trend is for a lessening of the difference.

6. For the first four decades cities over 25,000 were much better represented than rural areas or urban areas having a population of from 1,000 to 25,000. In 1961, however, urban communities of 1,000 to 25,000 are better represented than the other categories.

7. The increase in the rural representation is primarily due to an increase in the proportion of females from rural areas attending university.

8. Representation of socio-economic classes as measured by the Blishen occupational class scale is directly related to the status hierarchy.

9. The greatest increase in representativeness has been experienced by Classes 4 and 5 of Blishen's seven class occupational scale.

From the results of the study we can state that socio-economic status and sex are the two variables for which differences persist over time, and even these show a trend toward equalization. The fact that Alberta's economy has experienced so much growth since 1941 is seen as a prime factor in bringing about the changes noted. An important result of this study is that it shows that professional, managerial, and official personnel in Alberta will, to a greater degree than formerly, be composed of people of the Catholic and Fundamentalist religions, rural people, those originating in Classes 4 and 5, and females.

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CHAPTER I

STATEMENT OF THE PROBLEM

In a technological society an educated citizenry is considered to be a national resource. Skills are required at all levels of employment. Automation has increased the need for technical abilities and those who do not have them find it difficult to find a secure place in the labour market. "To an increasing extent recruitment for top organizational positions appears to be from the ranks of higher education rather than by promotion from lower levels in the corporate hierarchy. This underlines the need for university-trained personnel in large organizations."¹ In addition, Canada needs people who have been educated in the more liberal sense. Education for production and for consumption are both necessary components of a vigorous economy and an enlightened society. Hence it is becoming increasingly essential for as many people as possible to qualify themselves to the limits of their ability. This does not mean that all young people should aspire to a university education, but it does mean that the most able youngsters should be encouraged to realize their potential at post-high school institutions.

In recent years there has been increasing interest in Canada and the United States in investigating the extent to which this intellectual resource is being exploited and to gain a greater understanding of the factors involved in the motivation to go to university. Thus far, few

¹Alberta Teachers' Association, Brief to Alberta Royal Commission on Education (Edmonton, Alberta, April, 1958), Chap. 3, p. 21.

studies on the social characteristics of students have been undertaken for institutions of higher learning in Canada. It is sometimes assumed that the situation here is similar to that found in the United States. This study is intended to determine whether such an assumption is valid in Alberta or whether there are circumstances operating here which make for a different pattern in university enrollment.

While some investigators have attempted to make comparisons for different time periods by summarizing studies done at various times, these have generally been based on different sample areas, or on census publications for which detailed data are not available. It is necessary to know the trends in the enrollment pattern if predictions for the future are to be made and if the present pattern is to be thoroughly understood. This investigation, therefore, deals with five time periods, one for each decade from 1920 to 1960.

It is not enough to know the social characteristics of students who have attended university. It is also necessary to know how these characteristics differ from those of young people who do not attend university. One method by which this may be achieved is to study the college-going intentions of high school students. Where this is done those students indicating plans for college are compared to those without such plans. When studying the university population itself such comparisons are not feasible, but an alternative is to compare the characteristics of students to the characteristics of the population in general or particular segments of that population. This is the approach which has been adopted for this study.

In general the purpose of this study is to obtain information

relative to who is obtaining higher education in this province, and to observe the trends, if any, over time. A by-product is that this information will show who is gaining access to higher education and hence the higher status occupations. This will make it possible to evaluate social mobility as it relates to occupations requiring university education. Specifically, the purpose of this study is fourfold:

1. To determine the social characteristics associated with university attendance at the University of Alberta and to compare these to the patterns observed in the United States.

2. To determine the extent to which these characteristics have altered over the period from 1921 to 1961.

3. To determine whether changes in patterns of social characteristics since 1921 reflect changes in the composition of the provincial population in general or whether they reflect changes in the opportunity and aspiration of groups having certain specified social characteristics to obtain a university education.

4. To evaluate social mobility trends in Alberta with reference to higher status occupations.

In order to study changes in the composition of the student body of the university, the following independent variables will be considered:

Age

Sex

Marital Status

Religion

Birthplace of father

Place of residence

Socio-economic Status

The proportion of students in each category will be compared to the proportion in the population of the province for each period. It is changes in proportions of students to the total provincial population which will reveal changes in either motivation or opportunities for the various categories of students being studied to attend university.

Since five time periods are used in this investigation, it is hoped that it might be possible to evaluate the importance of each variable. Those which persist over time are more likely to be fundamentally relevant to motivation and opportunity for a university education. Those which are modified over time would seem more likely to be associated but not directly so. Hence a more ambitious by-product of this study is to isolate any variables of prime importance to university attendance. The implication here is that situational factors are influencing the modification and hence take precedence over social characteristics per se. With this in mind, changes occurring in the province which could influence opportunities for university attendance are also outlined.

A working assumption in the study is that all persons in Alberta who attend university attend the University of Alberta. It is recognized that this assumption is untrue and that some residents attend universities in other parts of Canada and the United States, but it is believed that these exceptions are sufficiently few so as to not appreciably influence results.²

A more serious limitation is that there are a number of institutions of higher learning other than the university in the province which are not

²In 1940-41 for every 25 students in a Canadian university, one Canadian went to an American university. In 1949-50 the ratio was 17:1. Canada, Dominion Bureau of Statistics, Education Division, Survey of Higher Education 1948-50. (Ottawa: Queen's Printer, 1952), p. 22.

included. Further, some, such as the normal schools, have been incorporated into the university in recent times. In an effort to make this study as meaningful as possible, a brief outline of the growth of the university and other post-high school institutions is presented.

The organization of the remainder of this study is as follows: in Chapter II some literature which has relevance to this study is reviewed. This includes not only the literature dealing with social characteristics associated with university attendance, but also relevant information on the role of mental ability and achievement motivation on university attendance and on social mobility.

Chapter III provides an outline of such changes which have occurred in the province since 1921 which could influence opportunities for university attendance and social mobility. Changes which have occurred within the university since 1921 and other post-high school institutions are briefly discussed in Chapter IV.

In Chapter V the hypotheses of this study are delineated. The samples of the study and the procedure employed in each phase of the investigation are described in Chapter VI.

The findings are discussed in three chapters. Chapter VII is devoted to general social characteristics associated with university attendance: sex, age, marital status, religion, and birthplace of father. In Chapter VIII the findings on place of residence are discussed, and in Chapter IX the role of socio-economic status.

The final chapter is concerned with conclusions and interpretations.

CHAPTER II

REVIEW OF THE LITERATURE

INTRODUCTION

An analysis of the composition of student bodies in institutions of higher education is one way of evaluating the distribution of opportunities to high-level occupations. While education is not a sufficient condition for access to such occupations, over the years it has increasingly become a necessary one. Education is, therefore, intimately related to upward mobility in the case of lower level socio-economic groups, and occupational inheritance in the case of higher level socio-economic groups.

In any such study a question which automatically arises is, "Why is it that certain social groups are more inclined to acquire higher education than others?" The answer to this question will obviously be an extremely complex one. Wolfle points out that university attendance is dependent on a number of factors which he classifies into two groups--those which are essential to school progress and those which are related but not in an essential way.¹ In the first group he places intelligence, satisfactory previous school work, money, and the desire to go to university. This study is not designed to deal with any of these factors directly but is centered around Wolfle's second group of factors--the social characteristics which appear to be related in an indirect way in

¹Dael Wolfle, America's Resources of Specialized Talent (New York: Harper & Brothers, 1954), pp. 140-42.

determining who obtains higher education. However, since these social characteristics appear also to be related to the "essential" factors mentioned by Wolfle, some attention will be given to ability level, achievement motivation, and values in reviewing the literature.

This chapter begins with a brief discussion of ability level, and goes on to a survey of what has been found in the area of achievement motivation, and to a few comments on values. Relevant information on occupational mobility is then outlined. Finally, a review of what has been found in the United States regarding the association between each of the social characteristics which will be examined and attendance at university is presented. This latter section is divided into three sub-divisions: the relationship of some general characteristics to university attendance, the influence of place of residence on university attendance, and finally, the influence of socio-economic status on university attendance.

THE ROLE OF ABILITY IN UNIVERSITY ATTENDANCE

It is self-evident that a reasonable amount of mental ability is a prerequisite for college attendance. The questions of importance here concern whether the most able young people always attend post-high school institutions, and whether ability is distributed equally throughout all segments of our society. The review which follows illustrates that ability is differentially distributed in the population with the upper socio-economic groups having the highest proportion of high-ability youth. It will also illustrate that for all ability categories, the higher the socio-economic group the greater the probability of attending college.

Hollinshead provides some figures on the relationship between

university attendance and ranking on a test for ability and application.

TABLE 2:1. PER CENT OF HIGH SCHOOL SENIORS WHO GO TO COLLEGE BY ABILITY RATING, UNITED STATES, 194-^a

Ability Rating	Per cent Who Go To College
Top 2 per cent	92%
Top 10 per cent	66
By quartiles, I	58
II	33
III	20
IV	10

^aByron S. Hollinshead, Who Should Go To College (New York: Columbia University Press, 1952), p. 31. Unfortunately Hollinshead does not supply a date for this information, but it is estimated to be sometime during the 1940's.

Roper's 1947 study based on a national sample of high school seniors

TABLE 2:2. PERCENTAGE DISTRIBUTION OF HIGH SCHOOL STUDENTS WHO HAVE APPLIED AND WANT TO GO TO COLLEGE AND OF TOTAL NATIONAL SAMPLE BY CLASS QUINTILE STANDING, SHOWING INDEX OF REPRESENTATIVENESS, UNITED STATES, 1947^a

Class Quintile	Percentage Distribution of those who Have Applied and Want to Go Next Fall	Percentage Distribution of Total National Sample	Index ^b
I	37.3%	21.4%	1.78
II	23.5	20.8	1.13
III	19.1	22.4	.85
IV	12.2	18.5	.66
V	6.8	15.4	.44
No answer	1.1	1.5	.73
	<u>100.0</u>	<u>100.0</u>	
N	3,200	10,063	

^aElmo Roper, Factors Affecting the Admission of High School Seniors to College (Washington: American Council on Education, 1949), p. 251.

^bThe index of representativeness is the ratio of the percent who applied to the percent of the total national sample.

in the United States shows a similar relationship. An index has been calculated in order to illustrate the consistency of the association between quintile rating in class and desire to go to college.

Rogoff's 1955 study based on the career plans of 35,000 high school seniors shows an increase in the percentage of each quartile with college plans when compared to the figures supplied by Hollinshead a decade earlier.

TABLE 2:3. PER CENT OF HIGH SCHOOL SENIORS PLANNING TO GO TO COLLEGE BY SCHOLASTIC ABILITY, UNITED STATES, 1955^a

Scholastic Ability Quartile	Per Cent Planning to Go to College
I	61%
II	44
III	33
IV	24

^aNatalie Rogoff, "Local Structure and Educational Selection," in A. H. Halsey, Jean Floud, and C. Arnold Anderson, Education, Economy, and Society (Glencoe, Illinois: The Free Press, 1961), p. 246.

Rossi found that 40 to 60 per cent of the variation among students could be accounted for by variations in IQ levels. The correlations between achievement and other characteristics are uniformly reduced in size when IQ is held constant.² However, certain social characteristics appear to determine to some degree IQ test performance. To illustrate, part of a table is being reproduced, from Pihlblad and Gregory, based on a study of 5,000 high school seniors in 116 communities in Missouri in 1939-41.³ The

²Peter H. Rossi, "Social Factors in Academic Achievement: A Brief Review," in A. H. Halsey, Jean Floud, and C. Arnold Anderson, Education, Economy, and Society (Glencoe, Illinois: The Free Press, 1961), p. 269.

³C. T. Pihlblad and C. L. Gregory, "Occupational Selection and Intelligence in Rural Communities and Small Towns in Missouri," American Sociological Review, 21 (1956), pp. 63-71.

mean score on the Ohio State University Intelligence Test for each occupational category is given for males and females. It will be noted that females have a higher mean in all but the teacher category. It is of interest that the mean decreases fairly consistently with status.

TABLE 2:4. MEAN IQ SCORES BY SEX AND FATHER'S OCCUPATION, MISSOURI, 1939-41^a

Father's Occupation	IQ Score	
	Male	Female
Professional	64.2	73.7
Teachers	64.3	63.0
Business and Sales	51.2	60.5
Clerical	55.0	62.5
Skilled	50.9	53.9
Semi-skilled and unskilled	50.0	54.2
Farmers	46.6	51.6

^aC. T. Pihlblad and C. L. Gregory, "Occupational Selection and Intelligence in Rural Communities and Small Towns in Missouri," American Sociological Review, 21 (1956), pp. 63-71.

Mapheus Smith provides similar information based on almost 5,500 freshmen at the University of Kansas 1934-38. Even though a different intelligence test has been used, there is considerable correspondence between Smith's and Pihlblad's scores. The scores provided for youth from a few specific professional occupations are of particular interest.

Smith states that five per cent of Alberta 18 year olds enrolled at university in 1956, but only two-thirds of these were considered "excellent university material."⁴ He estimates that another 23 per cent of matriculants with excellent potential did not enroll.

⁴Douglas E. Smith, "Selection of University Students," in Proceedings, The National Conference of Canadian Universities, 1958 (University of Alberta), pp. 43-49.

A possible explanation for the above situation is offered by Rogoff in relating university attendance, scholastic ability, and family status. She uses a special test devised for her study to rate scholastic ability.

TABLE 2:5. MEAN PERCENTILE IQ SCORES BY OCCUPATION OF FATHER, KANSAS, 1934-38^a

Occupation of Father	Mean Percentile Score
Professional	58.75%
Educators	64.03
Clergymen	61.13
Engineers	59.95
Lawyers	58.68
Other	58.54
Doctors	53.51
Clerical	56.22
Sales	55.78
Proprietors	53.34
Skilled	51.47
Foremen	50.07
Semi-skilled	47.54
Farmers	47.34
Domestic and Personal Service	47.32
Unskilled	36.71

^aMapheus Smith, "University Student Intelligence and Occupation of Father," American Sociological Review, 7 (1942), pp. 764-771.

Her family status quintiles are based on father's occupation, education, and educational experience of older siblings. It will be seen that in each family-status quintile there is a decrease in the proportion of youth who have college plans as scholastic ability decreases; but the proportion in all ability levels increases as family status increases. In fact, a greater proportion of young people of low ability but high family status plan to go to college than those of high ability but low family status.

Rogoff and Kahl, who made a similar investigation,⁵ found scholastic ability or IQ scores and family status to be almost equally good predictors of educational ambitions.

TABLE 2:6. PER CENT OF HIGH SCHOOL SENIORS PLANNING TO ATTEND COLLEGE, BY SCHOLASTIC ABILITY AND SOCIO-EDUCATIONAL STATUS OF THE FAMILY, UNITED STATES, 1955^a

Scholastic Ability Quartile	Family-Status Quintile					All
	I	II	III	IV	V	
I	83%	66%	53%	44%	43%	61%
II	70	53	37	29	29	44
III	65	41	31	20	21	33
IV	53	30	22	16	18	24
All	72	47	35	26	24	40

^aNatalie Rogoff, "Local Structure and Educational Selection," in A. H. Halsey, Jean Floud, and C. Arnold Anderson, Education, Economy and Society (Glencoe, Illinois: The Free Press, 1961), p. 246.

The foregoing clearly demonstrates that while intelligence and scholastic ability are important variables in college attendance, the socio-economic status of the family makes an independent contribution to the decision to take higher education.

THE ROLE OF ACHIEVEMENT MOTIVATION AND VALUES IN UNIVERSITY ATTENDANCE

The need for achievement as a basis of motivation has been explored by McClelland and his associates.⁶ McClelland defines the achievement

⁵Joseph A. Kahl, "'Common Man' Boys," in Halsey, Floud, and Anderson, op. cit., pp. 348-366.

⁶David C. McClelland, John W. Atkinson, Russell A. Clark, and Edgar L. Lowell, The Achievement Motive (New York: Appleton-Century-Crofts, Inc., 1953), chapters II and X.

motive in terms of affect in connection with evaluated performance. Expectations are built up as a result of past experiences as to the limitations and possibilities of a situation, and confirmation of expectations provides pleasure so long as the outcome remains somewhat uncertain. In addition when performance is perceived in terms of standards of excellence, evaluation of that performance can produce negative or positive affect.⁷ The presence of performance evaluation in stories composed in response to Thematic Apperception Test pictures is taken as an indication of the presence of achievement motivation. Content analysis of such stories provides a need achievement score which can then be rated as low, moderate, or high.

The need for achievement may be motivated by different personal orientations. For example, it has been found that people with very high need achievement scores tend to be motivated by the hope of success, while those with moderately high scores are more likely motivated by the fear of failure.⁸ The role of expectations based on past experiences seems particularly relevant here. Where achievement is motivated by hope of success, the individual would have a past history of success experiences, but not to the point of being unfamiliar with failure, thus maintaining some element of uncertainty. In the case of achievement motivated by fear of failure, the reverse situation would be expected.

With reference to the antecedents of a high need achievement score, the following quote from McClelland outlines the kind of family environment which encourages need achievement:

⁷Ibid., pp. 78-78.

⁸Ibid., p. 327.

The data we have to date strongly support the hypothesis that achievement motives develop in cultures and in families where there is an emphasis on the independent development of the individual. In contrast, low achievement motivation is associated with families in which the child is more dependent on his parents and subordinate in importance to them. In both types of homes there may be plenty of love and affection, but in the homes of the "highs" the son is more apt to "talk back" without deep feelings of guilt and to go off on his own rather than submit to the standards imposed on him by his parents. The contrast should not be thought of too simply in terms of the autocratic-democratic dimension. . . . The parents of the "highs" may be quite dictatorial, particularly when the son is young before he has learned to act successfully by himself; but if they are, they still act as if the child exists as an individual worth developing in his own right rather than as a subordinate part of a larger, "solidary" family unit to which he owes loyalty over and above his own individual interests. In the latter type of home from which the "lows" are most apt to come, the son must subordinate his interests for the sake of the family or even more extremely, he may not even develop a conception of himself as an individual having interests more important than his obligations to the family unit.⁹

McClelland points out that the "low" may find it impossible to maintain his position under group pressure for conformity, unless he receives support from some source.

Goal-oriented behavior may be thought of in terms of approach or avoidance. Thus the person who responds negatively to a situation is showing goal-oriented behavior as much as the person who responds positively and strives toward the goal. This point has relevance for occupational mobility. "Positive affect is the result of smaller discrepancies of a sensory or perceptual event from the adaptation level of the organism; negative affect is the result of larger discrepancies."¹⁰ Thus a person may have expectations regarding a certain situation, and if he is unable to come close to realizing these expectations negative affect is the result with avoidance motives evoked when cues pertaining to the situation are present at future times. If an approach motive is to be conditioned,

⁹Ibid., pp. 328-29.

¹⁰Ibid., p. 43.

opportunities for mastery must be present. However, if mastery is too easy boredom will result and a lack of interest in achievement will follow. Hence, if high need achievement is to be developed, tasks must be neither so difficult that they cannot be mastered nor so easy that mastery is no challenge.

It has frequently been observed that need achievement is related to social class: the apathetic acceptance of the lower class individual is compared to the striving of the middle-class person.¹¹ Hirabayashi has pointed out that lack of status striving on the part of lower-class individuals may not be a negative reaction, as the word "apathetic" connotes, but may be a positive adaptation to lower-class social conditions.¹² Hence, while the lower-class person may have developed certain avoidance motives relative to the social class hierarchy, approach motives are likely present in other areas. He points out further that the usual interpretation of "apathy" may be the result of selective perception and the imposition of middle-class values on a different sub-culture.

Rosen has studied the relationship between social class and motivation empirically. He hypothesizes that there are two components involved in this relationship. The first is a psychological factor--the need for achievement. The second is a cultural factor consisting of value orientations which facilitate the realization of achieving behavior.¹³ It

¹¹Joseph A. Kahl, The American Class Structure (New York: Rinehard and Company Inc., 1957), p. 210.

¹²Gordon K. Hirabayashi, "Apathy as a Mode of Adjustment: A Hypothesis," in University of Alberta Committee for Social Research, The Metis in Alberta Society (Edmonton: University of Alberta, 1963), Chap. 13, pp. 375-384.

¹³Bernard C. Rosen, "The Achievement Syndrome: A Psychocultural Dimension of Social Stratification," American Sociological Review, 21 (1951), pp. 203-211.

should be pointed out that an achievement goal may refer to any object or event toward which behavior and desire are directed, but in this chapter emphasis is on the specific goal of status improvement. Rosen points out that values affect mobility insofar as they determine what is an acceptable goal. It is possible to possess high need achievement but if it is directed into a sphere of activity which is unrelated to educational or occupational status improvement, it may provide the person with satisfaction but not with an increased standard of living. For example, achievement needs may be expressed in recreational, religious, or deviant behavior. Further, even when values do direct the individual to status-improving goals, and even if high need achievement is present, it is still possible that the individual will not possess practical knowledge as to how to implement his desire, the necessary ability, or be willing to plan ahead, make sacrifices, or work hard. In this case we have the ingredients for a serious maladjustment in which the individual realizes his aspirations only in fantasy.

Rosen found that 83 per cent of his subjects in Classes I and II as defined by Hollingshead had high motivation scores as compared with 23 per cent in Class V, using McClelland's test to measure achievement.

Using a questionnaire, Rosen also tested for value orientations. These orientations, based on Kluckhohn's theoretical discussion,¹⁴ include three dimensions: activistic-passivistic, present-future, and familistic-individualistic orientations. A similar relationship was again found.

¹⁴Florence Kluckhohn, "Dominant and Substitute Profiles of Cultural Orientation: Their Significance for the Analysis of Social Stratification," Social Forces, 28 (1950), pp. 376-393.

In Classes I and II, 77 per cent of the subjects scored high on the value scale as compared to 17 per cent in Class V.¹⁵ In addition, Rosen found that subjects with high motivation scores are more likely to receive grades of B or better, but no relationship was found between grades and value orientation. On the other hand, value orientation is related to educational aspiration while need achievement is not.¹⁶ He found that the relationships between class and grades, and between class and value scores virtually disappear when achievement motivation and aspiration level are each held constant. This suggests that while these characteristics are found in varying proportions in the different classes, it is not class position per se which creates the relationship. Rather the circumstances which encourage high or low achievement motivation and value orientation scores are differentially present in the various classes.

It has been pointed out that the achievement motivation measure may reflect a stable personality predisposition representing interest in achievement, or it may reflect situational arousal of achievement interests.¹⁷ Veroff and associates found that there are overall religious differences in achievement motivation: more Jewish men have high achievement motivation (68 per cent) than Catholics (57 per cent) or Protestants (48 per cent). The figures for Catholics and Protestants are contrary to the results obtained by McClelland and Rosen who both found Protestants to

¹⁵Rosen, op. cit., p. 208.

¹⁶Ibid., p. 209.

¹⁷Joseph Veroff, Sheila Feld, and Gerald Gurin, "Achievement Motivation and Religious Background," American Sociological Review, 27 (1962), p. 207.

have a higher need for achievement than Catholics.¹⁸ Veroff explains the difference by pointing out that the former used quota samples in the Northeast, while he used a representative national sample. It is suggested that the higher income groups are over-represented in the McClelland and Rosen studies.

Veroff attempts to determine the reason for the results he obtained, as they are inconsistent with his basic hypothesis that higher achievement motivation may be expected in Protestants than Catholics because of the earlier independence training given Protestants in childhood. He found that while age is not a factor among Protestants, among Catholics the percentage of men with high achievement motivation is much higher in the 35-49 age group than for younger or older men. He also found that Catholic men with two or more children, and those making under \$4,000 per year are more likely to have high achievement motivation. These results do not obtain for Protestant men. Veroff suggests that achievement motivation of Catholics is specifically engaged by environmental pressures aroused by situational factors, while Protestants have more generalized abstract strivings.

The presence of these two factors in achievement motivation has interesting implications for class mobility. Since environmental pressures will affect people in different ways, the same objective situation will result in different behavior relative to achievement. Thus

¹⁸D. C. McClelland, A. Rindlishbacher, and R. C. de Charms, "Religious and Other Sources of Parental Attitudes Toward Independence Training," in D. C. McClelland (ed.), Studies in Motivation (New York: Appleton-Century-Crofts, 1955), pp. 389-397, and B. C. Rosen, "Race, Ethnicity, and the Achievement Syndrome," American Sociological Review, 24 (1959), pp. 47-60.

those whose achievement motivation is based primarily on situational arousal will react most effectively to environmental pressures; hence in the lower classes it is expected that Catholics, for example, will strive harder than Protestants for an increased standard of living. On the other hand, where a good standard of living is already present, as in the case of the upper-middle class, Protestants are more likely to be concerned with achievement as a means of personal fulfillment.

Strodtbeck has pointed out that although Jews and Italian Catholics who immigrated to this country in the early part of the twentieth century had equally low socio-economic status at the time of immigration, there are now more Jews in professional and managerial occupations.¹⁹ He attributes the differences to a whole series of inter-related values. For example, Jews are more futuristic, more individuated, and more inclined to view their environment as something which is controllable. Italian Catholics, on the other hand, are present oriented, submerge self-interest to the interests of the family, and tend to look upon environmental situations as the result of luck or fate over which they are capable of exercising little control. In addition Catholic doctrine emphasizes the imperfectability of man, while Jews and Protestants are more likely to believe man should strive toward perfection. Attitudes toward education are also of importance. To the Italian Catholic higher education is for a select few and he might consider it impertinent to even think in terms of obtaining more than is customary for his group. Jews look upon education as the prerogative and duty of all. Even those who may not be in a position

¹⁹Fred L. Strodtbeck, "Family Integration, Values, and Achievement," in Halsey, Floud and Anderson, op. cit., pp. 315-347.

to acquire formal education may acquire status by being learned in the religious sphere.

In another study by Strodbeck and his associates, Jewish and Italian Catholic boys 14 to 17 years of age were asked to indicate whether they would be pleased or displeased to have certain occupations.²⁰ These occupations were rated according to A. B. Hollingshead's method of assessing social class position. The boys were also asked to indicate from another list whether their parents would be pleased or displeased if they were to hold occupations representing these same class categories. It seems that in general boys perceive their parents as being more ambitious for them than they are for themselves. Further, the disparity between the boy's self-report and his guess regarding parental attitudes increased as the status of the occupation went up, but self-reports and guesses are more nearly parallel in upper than in lower classes. This class difference appears to account to an appreciable degree for the Jewish-Italian differences in general. Strodbeck states:

. . .there is no basis for believing that Jewish socialization practices are any more effective than those of Italian families in causing sons to adopt occupational evaluations similar to those imputed by the son to his parents.²¹

On the other hand, while both Jewish and Italian Catholic boys guessed their parents would be pleased if they achieved the highest positions, it was predominantly Italian boys who believed their parents would be

²⁰Fred L. Strodbeck, Margaret R. McDonald, and Bernard C. Rosen, "Evaluation of Occupations: A Reflection of Jewish and Italian Mobility Differences," American Sociological Review, 22 (1957), pp. 546-553.

²¹Ibid., p. 553.

satisfied with less. The investigators conclude that the principal source of the differences result because the Italians are more accepting of lower status occupations. This suggests that the expectations of the parents, over and above need achievement and values, has a very profound influence.

Rosen's study of achievement motivation, values and aspiration level of six racial and ethnic groups is of interest.²² He shows that the mean achievement motivation score for Catholics (Italians and French Canadians) is significantly lower than the scores for Protestants, Greek Orthodox, and Jews. The mean score for Negroes is significantly lower than the combined mean score of all white groups. However, Rosen found that social class accounts for more of the difference than does ethnicity, but neither is sufficient to predict an individual's score; it seems both contribute something to the variance between groups. Rank ordering of the top five mean scores and the bottom five mean scores will illustrate the complexity of the class and ethnic relationship in regard to achievement motivation.

Top Mean Scores

1. Class III, Italian
2. Class III, Greek
3. Class I-II, Protestant
4. Class I-II, Negro
5. Class V, Jew

Bottom Mean Scores

1. Class V, Negro
2. Class V, Protestant
3. Class IV, Italian
4. Class V, French Canadian
5. Class IV, Negro

It will be seen that Italians, Protestants, and Negroes have scores among both the highest and the lowest five scores. It is also of interest that for Negroes and Protestants scores are lowest for Class V with a steady

²²Bernard C. Rosen, "Race, Ethnicity, and the Achievement Syndrome," American Sociological Review, 24 (1959), pp. 47-60.

increase in score as class position goes up while the reverse situation obtains for Jews. This suggests that Jews too are reacting to environmental pressures as Veroff found to be the case for Catholics. For Italians and Greeks there is a lessening of achievement motivation in the highest two classes.

Information collected from mothers regarding Kluckhohn's value orientations shows that the highest mean value scores are found among Jews, Protestants, Greeks and Negroes. The mean value score for Roman Catholics was significantly lower than the scores for Jews, Protestants or Greeks. For all but French Canadians the mean value scores increase directly with class position. As in the case of achievement, social class accounts for more of the variance in value orientations than does ethnicity.

Aspiration level was measured by asking mothers, "How far do you intend for your son to go to school?" The following percentages in each ethnic category wanted their sons to go to college: Jews, 96 per cent, Protestants, 88 per cent, Greeks, 85 per cent, Negroes, 83 per cent, Italians, 64 per cent, and French Canadians, 56 per cent. While the percentages for Jews, Protestants, Greeks, and Negroes are not significantly different from one another, they are significantly higher than the percentages for Italians and French Canadians. Once more, when social class is controlled, the differences are largely reduced but they do not disappear altogether. The greatest difference is present in Class V.

When mothers were presented with a list of occupations and were asked to indicate which they would be pleased or displeased to have their son hold, the rank ordering of vocational aspirations of mothers was as

follows: Jews, Greeks, Protestants, Italians, French Canadians, and Negroes. The mean score for Jews was significantly higher than for other groups. In the case of vocational aspiration, social class is related but not as significantly as is ethnicity. This is consistent with the finding of Strodbeck that there is more acceptance of occupations lower on the socio-economic scale in the case of Italians than Jews.

No explanation is offered as to why this difference between educational and occupational aspiration should exist. It is possible that the former is answered in terms of an idealized situation while the latter is answered in terms of a reality situation. Even so, one would still expect occupational aspirations to be highly related to socio-economic status of the family which is providing the immediate frame of reference for comparison. It is possible that ethnic identification is stronger than social class identification and hence makes for acceptance of occupations according to the norm for the ethnic group rather than according to the norm for the social class group. In any event, no solution to the problem can be offered at this time.

The foregoing illustrates that upward social mobility depends on three main components: (1) a psychological need to achieve because of inculcated standards of excellence, or environmental pressures; (2) value orientations which facilitate the realization of achievement needs; and (3) aspirations related to educational and occupational goals. When these three components are present, together with the necessary personal characteristics and opportunities for implementation, upward movement in the class structure is very likely to occur. These components all relate to our middle-class culture. Thus, those people who, although lower on

the socio-economic scale, have for some reason acquired these middle-class orientations, will achieve success according to middle-class standards. There is, of course, nothing absolute about these standards of success. As pointed out earlier, some groups may strive for and achieve success in areas totally unrelated to socio-economic status, or adapt to their existing social environment by using protective withdrawal.

Crockett used McClelland's method to assess the role of motivation in the mobility of persons sharing similar opportunity; that is, similar regional, occupational and educational backgrounds.²³ Crockett's study is based on Atkinson's hypothesis that strength of performance in a situation is the consequence of a momentary state, termed motivation, which in turn is the product of motive strength and of situational variables.²⁴ Two of the situational factors which are important for strength of achievement motivation are: (1) expectations of success or failure based on past experiences; that is, if the task is perceived as having a high probability of success, it will not appear difficult, and (2) the incentive value of the task which relates to the degree of satisfaction or dissatisfaction the individual attaches to the achievement or non-achievement of a particular goal. The assumption is that the greater the difficulty of the task to the individual, the greater the satisfaction involved in success. It follows that high prestige occupations will have a lower expectancy of success and will also have a higher incentive value. According to Crockett,

²³Harry J. Crockett, Jr., "The Achievement Motive and Differential Occupational Mobility in the United States," American Sociological Review, 27 (1962), pp. 191-204.

²⁴John W. Atkinson, "Motivational Determinants of Risk-Taking Behavior," Psychological Review, 64 (1957), pp. 359-372.

the occupational prestige hierarchy may be thought of as a series of tasks involving both increasing incentive value (increasing prestige) and increasing difficulty (decreasing probability of success).²⁵ He hypothesizes that strong achievement motive should lead to greater accomplishment in the occupational sphere.

The method used involved classifying the occupations of fathers and their sons according to the National Opinion Research Center prestige scale using four categories and comparing to achievement motivation as obtained from TAT protocols. Crockett found his hypothesis was only partially confirmed. Sons of fathers with low or lower-middle prestige show a clear relationship between achievement motivation and occupation, but the relation did not hold in the two higher prestige categories. Further, there was little evidence to support the expectation that downward mobility would be greater in the low need achievement group.

Crockett explains his results as follows: he suggests that in the lower categories it is possible to acquire occupational mobility without too much education. In the upper categories, however, education is essential if the father's status is to be maintained. Hence, if for some reason the son is unable to obtain a higher education, he automatically goes down in the status hierarchy.

A few studies which deal with attitudes toward higher education will be mentioned.

The National Opinion Research Center study, based on a national sample in 1947, found some differences in the percentages of people living

²⁵Crockett, op. cit., p. 195.

in communities of various sizes who recommend college training.²⁶ In metropolitan districts of one million and over, 53 per cent recommend college training as compared to 60 per cent living in metropolitan districts of 50,000 to one million. Fifty-five per cent of people in small cities and towns recommend college training, and 48 per cent of those in rural farm communities. Thus people in the largest urban areas appear to regard education no more favorably than people in the smaller communities. This relationship holds for actual attendance at university as will be seen in the review covering the influence of place of residence.

The NORC study also found a relationship between occupation and attitudes toward education, illustrated in the following table:

TABLE 2:7. PER CENT OF OCCUPATIONAL CATEGORIES RECOMMENDING COLLEGE TRAINING, UNITED STATES, 1947^a

Occupation of Respondent	Per cent Recommending College Training
Professional	74%
Business men and Proprietors	62
White-collar workers	65
Skilled labor	53
Domestic and Personal service workers	42
Farmers	47
Non-farm laborers	35

^aHarry J. Crockett, Jr., "The Achievement Motive and Differential Occupational Mobility in the United States," American Sociological Review, 27 (1962), p. 421.

Thus the higher the occupational classification the more likely a person is to have a favorable attitude toward higher education.

²⁶National Opinion Research Center, "Jobs and Occupations: A Popular Evaluation," in Reinhard Bendix and Seymour Martin Lipset, Class, Status and Power (Glencoe, Illinois: The Free Press, 1957), pp. 411-426.

Havighurst places considerable emphasis on the education of parents in forming their attitudes toward education and hence as a motivating factor in inducing young people to go to university.

Practically all of the superior youths who do not continue their education beyond high school are children of people who have had less than a high school education. They value a job and an earning career highly for their young people. They are not accustomed to postponing the earning of money in favor of a long and costly period of vocational preparation. They favor early marriage, especially for their daughters. While these people have come to look favorably on a high school education for their children, they do not regard college as really within the reach of their aspirations or their financial means.²⁷

The NORC study found that of those who had attended college themselves, 72 per cent recommended college training, while 55 per cent of those who attended high school, and only 36 per cent of those who attended eighth grade or less held similar views.

With reference to income level, the NORC study found a direct relationship between this variable and attitudes toward education as well.

Wealthy and prosperous	68 per cent
Middle class	59 per cent
Poor	39 per cent ²⁸

In an attempt to measure the relationship between status and aspiration with intelligence controlled to determine whether it is the values of a status group or intelligence which leads to high aspirations, Sewell and associates tested a random sample of all non-form seniors in Wisconsin

²⁷Robert J. Havighurst and Robert R. Rodgers, "The Role of Motivation in Attendance at Post-High-School Educational Institutions," in Byron S. Hollinshead, Who Should Go To College (New York: Columbia University Press, 1952), p. 162.

²⁸NORC, op. cit., pp. 441-442.

schools in 1947-48.²⁹ Educational aspiration was defined to be "high" if the student planned to go to a four-year college, and occupational aspiration was defined to be "high" if it rated above 78 points on the NORC prestige scale. The results show that both educational and occupational aspiration are related to the social status of the student even when intelligence is controlled. The relationship held for both sexes. This suggests that social status makes an independent contribution to level of aspiration insofar as it embodies values and expectations relative to occupational status.

Another study by Haller and Sewell compares the educational and occupational aspirations of a rural and an urban sample.³⁰ They found that among high-school senior girls, neither educational nor occupational aspirations are significantly related to place of residence. However, among boys occupational achievement cannot be predicted from information on residence: boys who live on farms desire to enter high level jobs with the same frequency as urban males, but boys from farm homes have less interest in college education than do others. Sewell concludes that farm boys are equally aware of the occupational alternatives but not equally aware of their educational requirements.

The attitudes of the various groups toward higher education which have been mentioned here will be reflected in actual attendance at

²⁹William H. Sewell, Archie O. Haller, and Murray A. Straus, "Social Status and Educational and Occupational Aspirations," American Sociological Review, 22 (1957), pp. 67-73.

³⁰Archie O. Haller and William H. Sewell, "Farm Residence and Levels of Educational and Occupational Aspiration," American Journal of Sociology, 62 (1957), pp. 407-411.

university as will be seen later in this chapter.

THE ROLE OF EDUCATION IN SOCIAL MOBILITY

A little over a decade ago there was a growing body of literature which expounded the view that social classes in the United States were becoming more rigid.³¹ The end of mass immigration was considered to be a major cause for the emergence of a less fluid society. However, since that time consensus of opinion has shifted, and it is now generally agreed that there is little or no decline in the amount of occupational mobility which is taking place.

Sjoberg examines the effects of social change on social stratification. Factors such as urbanization, industrialization, political consciousness, unionism, welfare government, mass communication, and economic inflation, together with war and depression, have brought about a redistribution of certain objective criteria of class: power, achievements and possessions. If anything, he claims, the present class system is more indeterminate than it was at the turn of the century.³²

It is worth noting that Sjoberg prefers objective criteria of class. According to him, class consciousness is no more than a recognition of these objective status differentials. In another interesting aside he states that groups which formerly held control become class conscious when

³¹See C. Wright Mills, White Collar (New York: Oxford University Press), p. 259; E. Sibley, "Some Demographic Clues to Stratification," American Sociological Review, 7 (1942), pp. 320-330; and J. O. Hertzler, "Some Tendencies Toward a Closed Class System in the United States," Social Forces, 30 (1952), pp. 313-323.

³²Gideon Sjoberg, "Are Social Classes in America Becoming More Rigid?" American Sociological Review, 16 (1951), p. 776.

they begin to lose such control.³³

Sjoberg points out that since a peak period in 1928, the upper five per cent income group have received a smaller proportion of the national income while the lower income groups have been increasing their proportional share. "Thus if we assume that monetary gain and the concomitant ability to acquire material possessions are important criteria of class in America, it follows that today there is less differentiation in the class structure."³⁴ In support of this thesis he presents an index representing changes in standard of living for 1947 for selected occupations, 1930 being the base. A few are quoted below.

Coal miner	191
Automotive worker	132
Teacher	109
Small stockholder	79
Wealthy stockholder	31

This differential change in standard of living has had a levelling influence on American social classes. Also contributing to the levelling process, Sjoberg lists the increase in high school and college graduates, the similarity in dress, language and etiquette. He states that the class system is now less well-defined than at the turn of the century. Social classes have become ideal types. He claims further that studying social mobility solely in terms of occupation may produce very misleading results. "Changes in income, personal attributes, and the power held by individuals are also meaningful."³⁵

It has already been mentioned that one of the factors which has contributed to a continuance of a fluid class structure is urbanization

³³ Ibid., p. 779.

³⁴ Ibid., pp. 779-80.

³⁵ Ibid., p. 783.

and the migration of rural people to urban areas. Lipset has studied the relationship of social mobility to urbanization.³⁶ Based on the Oakland labor-mobility survey, it was found that men coming from rural backgrounds are most likely to have been manual workers for most of their careers. Further, the larger the community of orientation the higher the status of the job held. For example, 67 per cent of executives come from cities of over 250,000 and only 21 per cent of male workers from large cities are unskilled. On the other hand, the self-employed and the professionals often come from smaller communities.

While the lower educational attainment of those who come from smaller communities explains to some degree why those growing up in metropolitan areas are more likely to attain nonmanual positions, it is of interest that even when amount of education is held constant more of the metropolitan residents hold nonmanual positions.

Lipset offers three suggestions as to why there is greater mobility in urban centers. The first is that because of specialization of function in metropolitan centers there is a greater variety of positions available. Hence people living in large centers have a better chance of moving occupationally. Secondly, the considerable population and economic growth enjoyed by large cities means that there are new and higher level positions to be filled than in the smaller and more stable communities. Thirdly, since cities have a lower birth rate than smaller communities and rural areas, there is less likelihood of positions being filled from within the

³⁶ Seymour Martin Lipset, "Social Mobility and Urbanization," in Paul K. Hatt and Albert J. Reiss, Jr., Cities and Society (Glencoe, Illinois: The Free Press, 1959), pp. 458-466.

class.

Lipset hypothesizes that men reared in large cities are more likely to be upwardly mobile than migrants from smaller communities and rural areas because lower-class individuals from large cities are more likely to obtain higher education than those in smaller communities, and also because they are more likely to be acquainted with the occupational possibilities which are available. The more frequently young people hear about a given job the more likely they are to choose it.

Lipset comments that one reason why some sociologists have thought that the status structure of the United States was becoming more rigid is because they were studying small communities where the situation is relatively static.

In his study of changes in the occupational structure of the United States from 1910 to 1950, Reiss outlines six main modifications:³⁷

1. An increase in the proportion of urban occupations is evident. In addition the nature of farm operation and employment has been changing to a more urban pattern of industrial operation.

2. Professionalization of jobs is occurring. Many occupations now demand a high level of education and as a result seek professional status. The established professions have had relatively smaller increases than the newer ones of scientists, engineers, entertainers, and technicians.

3. The clerical and sales worker group has shown the greatest relative increase of any occupational group.

³⁷Albert J. Reiss, "Changes in the Occupational Structure of the United States, 1910 to 1950," in Hatt and Reiss, op. cit., pp. 424-431.

4. Increased industrialization and specialization has resulted in a changed concept of skill. There has been a considerable increase in the proportion of semi-skilled workers, and a decrease in the proportion of unskilled workers, with little change evident among the skilled. The high degree of precision and skill required in many processes today is either divided among a large number of workers such that it is relatively limited for a particular job, or the skill is transferred to a machine.

5. There has been a secular trend toward upward mobility in the occupational structure. The decline in those employed in agriculture from 25 per cent in 1910 to 12 per cent in 1950 has been taken up in the expansion of the white-collar rather than the manual non-farm occupations. Thus, much mobility is the result of this secular trend for the higher status occupations to expand.

6. Reiss notes no decline in the rate of occupational mobility. "The fact that there is no downward trend in the index of net redistribution negates the idea that the rate of social mobility is slowing down."³⁸

In order to illustrate some of the points made by Reiss in a concrete way, information from a table presented by him is reproduced on page 34.

Kahl estimates that 67 per cent of the labor force in 1950 was mobile. This represents total occupational mobility from all causes, and includes, therefore, individual as well as mobility resulting from technological change and differential fertility. He finds that in the period between 1920 and 1950, 19.7 per cent of the labor force was mobile

³⁸Ibid., p. 430.

TABLE 2:8. PERCENTAGE DISTRIBUTION OF EMPLOYED WORKERS BY OCCUPATIONAL CATEGORIES, UNITED STATES, 1920-1950^a

Occupational Group	1920	1930	1940	1950
Nonfarm	74.6%	78.7%	82.5%	87.9%
Professional & semiprofessional	4.9	6.0	6.9	7.2
Proprietors, Managers & Officials	6.7	7.5	7.8	10.4
Clerical & Sales	13.7	16.3	17.2	19.0
Skilled workers & foremen	13.4	12.9	12.8	12.9
Semi-skilled workers	16.0	16.3	17.9	20.9
Unskilled workers	19.9	19.7	19.9	17.5
Farm	25.4	21.3	17.5	12.1
Operators & managers	15.3	12.3	10.4	7.0
Laborers	10.1	9.0	7.1	5.1
Total	100.0	100.0	100.0	100.0

^a Albert J. Reiss, "Change in the Occupational Structure of the United States, 1910 to 1950," in Paul K. Hatt and Albert J. Reiss, Jr., Cities and Society (Glencoe, Illinois; The Free Press, 1959), pp. 424-431.

by virtue of technological changes, 6.8 per cent was mobile because of differential fertility, and 40.5 per cent was mobile as a result of individual occupational mobility,³⁹

The factors mentioned thus far make much of the observed upward movement in occupational status possible. However, the question of factors associated with determining who moves, up, remains, or moves down involves the study of individual mobility.

Rogoff's study of inter-generational occupational mobility investigates the extent of family continuity and inheritance of occupations, and hence the amount of mobility present in society.⁴⁰ Rogoff points out that total mobility is the resultant of the availability of jobs in certain

³⁹ Joseph A. Kahl, The American Class Structure (New York: Rinehard and Company, Inc., 1957), p. 261.

⁴⁰ Natalie Rogoff, Recent Trends in Occupational Mobility (Glencoe, Illinois: The Free Press, 1953).

occupational groupings, and of personal or group factors. For example, growth of professions has made possible the entry of many from other occupational origins since professional fathers alone could not supply the increased demand, but at the same time movement within the occupational structure is more restricted for some social groups than for others. Her interest is in making comparisons for two time periods, 1910 and 1940, and in determining whether or not various social groups at each time period occupy positions in proportion to their numbers in the population.

Rogoff's results show that while movement did not depend on origins, occupational destinations did. In fact, it appears that by 1940 social origins were becoming more important in selection for occupations. While the most likely destination was occupation of father, the broad occupational category of the father was of importance. For example, if the father was a white-collar worker, the son was most likely to be in another white-collar occupation; similarly for blue-collar workers. Of importance is the finding that in both 1910 and 1940 the rate of mobility into non-manual work by the sons of manual workers was about the same as the rate of mobility from a nonmanual origin to a manual one. This indicates that while there has been considerable occupational class movement, net mobility for the periods studied was about zero. It is possible that the reshuffling which has occurred has been on the basis of overall ability.

Another inter-generational mobility study of interest is that of Centers, which is based on a nationally representative cross-section of the adult, male, white population of the United States.⁴¹ Centers found

⁴¹Richard Centers, "Occupational Mobility of Urban Occupational Strata," American Sociological Review, 13 (1948), pp. 197-203.

that in 60 to 70 per cent of cases, son's status is relatively similar to father's; that is, within one occupational grouping above or below, using Edwards' census categories. He found that net mobility was negative for all white-collar groupings, positive for all blue-collar groupings. There is a modest net upward mobility of six per cent. For example, 53 per cent of fathers in the professions will have sons in a lower occupational status (15 per cent move up into large business, 32 per cent remain at the professional level), while 13 per cent of skilled manual workers will have a higher status than their fathers. It is of interest that of professionals, most of whom we can assume will have a college education, 72 per cent come from lower occupational strata (41 per cent from other white-collar occupations, and 31 per cent from blue-collar occupations).

In another study Centers shows that of sons whose education is better than their father's, one-half have positions better than the fathers, while only 16 per cent whose education is poorer have a higher occupational status.⁴² In addition, it was found that sons originating in the white-collar grouping are not so likely to reach higher positions than their fathers even though they may have better education as is the case for sons originating in the blue-collar grouping. Again, it seems easier to advance at the lower levels than at the higher ones.

Two studies which analyze the origins of specific occupational groups were conducted by Adams.⁴³ Adams has analyzed the occupational

⁴²Richard Centers, "Education and Occupational Mobility," American Sociological Review, 14 (1949), pp. 143-144.

⁴³Stuart Adams, "Regional Differences in Vertical Mobility in a High Status Occupation," American Sociological Review, 15 (1950), pp. 228-235; and "Trends in Occupational Origins of Physicians," American Sociological Review, 18 (1953), pp. 404-409.

origins of independent attorneys in three cities of differing chronological ages. Contrary to expectations, he found the greatest occupational inheritance occurring in the youngest city which was in the Midwest and the greatest mobility in the Northeastern city. The professional category contributed only 16 to 26 per cent of sons who went into law in the three cities. Adams attributes this result to the presence of highly mobile second generation immigrants in the older regions, greater accessibility of education, and an absence of a strong sense of opportunity in the basic industries and business in the older areas.

In a similar study, using a sample of physicians in two Northeast and two Midwestern cities, Adams found that individuals entering the medical profession during the period 1900 to 1950 have shown a significant tendency to become more representative of the gainfully employed male population. However, the mean occupational origin of the profession as rated by the North-Hatt scale remains significantly higher than the mean rating of the North-Hatt scale itself.

Warner and Abegglin's study of business leaders provides information on changes in mobility rates over time.⁴⁴ Table 2:9 shows ratios for 1928 and 1952 of the origins of business leaders to the proportion of the occupational group in the population. This table illustrates that the top levels of business management have become more open over time.

Vertical mobility across the manual-nonmanual line for the United States has been calculated by Lipset and Bendix from information based on

⁴⁴Kahl, op. cit., p. 271.

TABLE 2:9. RATIO OF THE ORIGINS OF BUSINESS LEADERS TO THE PROPORTION OF THE OCCUPATIONAL GROUP IN POPULATION, UNITED STATES, 1928-1952

Occupational Group	Ratio 1928	Ratio 1952
Professional men	4.33	3.50
Businessmen	9.67	4.73
Clerks and Salesmen	0.71	0.80
Farmers	0.32	0.33
Laborers	0.24	0.32

on the average of three studies.⁴⁵ They estimate upward mobility to be 33 per cent, downward mobility 26 per cent, and total vertical mobility of the nonfarm population from working to middle class 30 per cent. The validity of gross comparisons of this kind may be questioned as the distinction between clerical and skilled manual occupations is becoming less clear.⁴⁶

SOME GENERAL SOCIAL CHARACTERISTICS ASSOCIATED WITH UNIVERSITY ATTENDANCE

The literature dealing with the relationship between university attendance and a few specific characteristics is reviewed in this section.

Sex and University Attendance

In Roper's 1947 study of high school seniors, 40 per cent of the

⁴⁵ Seymour Martin Lipset and Reinhard Bendix, Social Mobility in Industrial Society (Los Angeles: University of California Press, 1959), p. 25.

⁴⁶ Kurt Mayer, "Recent Changes in the Class Structure of the United States," Transactions of the Third World Congress of Sociology, Amsterdam, 1956 (London: International Sociological Association, III), pp. 66-80.

boys made application for admission to college as compared to 31 per cent of the girls.⁴⁷ The percentages of those who actually attended were 33.6 per cent of the boys and 27.9 per cent of the girls.

White's study of high school seniors in 1950 in the Cleveland-Akron-Lorain metropolitan area showed 38 per cent of those who enrolled in college were female.⁴⁸ National figures for 1950 in the United States give the college attendance ratio of males to females as 2:1. Hollinshead states that if the veterans were excluded, the ratio would be closer to 3:2.⁴⁹ Wolfle also estimates the normal sex ratio to be 3:2 for the academic year 1952-53.⁵⁰

Little information is available regarding changes in the sex ratio over time. Wolfle reports on the percentage of Bachelors and first professional degrees which have gone to females for three periods: 1900, 32 per cent; 1920, 34 per cent; and 1940, 40 per cent.⁵¹ These figures are, of course, not directly comparable to attendance at institutions of higher education but they do show an increase in proportion for females which very likely reflects an increase in attendance in general. It will be noted that the percentage of females obtaining degrees in 1940 agrees with the sex ratio estimated by Wolfle and Hollinshead.

The proportion of female students in relation to total enrollment

⁴⁷Roper, op. cit., p. XXIII.

⁴⁸R. Clyde White, These Will Go To College (Cleveland: The Press of Western Reserve University, 1952), p. 37.

⁴⁹Hollinshead, op. cit., p. 33.

⁵⁰Wolfle, op. cit., p. 164.

⁵¹Ibid.

in 1960-61 for Canada was 23 per cent.⁵²

Age and University Attendance

Few studies relative to university attendance have considered age as a factor for investigation. Most comparisons to population figures are based on some specified age group, but none of the studies gives consideration to the range of ages of those in attendance at college.

Wolfle comments that more males than females work a year or two between high school and college⁵³ which would have the effect of producing a larger proportion of males in the older age categories. Mulligan found that education was interrupted for work most often for those students originating in the semi-skilled group in particular, and the blue-collar group in general.⁵⁴

A study of high school graduates in Minnesota found that while only half of the graduates in the top 10 per cent in ability went to college the year following high school graduation, 80 per cent of this group attended college in the nine-year period following.⁵⁵

Marital Status and University Attendance

None of the investigations studying the characteristics of students

⁵²E. F. Sheffield, "University Development: The Past Five Years and the Next Ten," in Davidson Dunton and Dorothy Patterson, Canada's Universities in a New Age. Proceedings of the Conference Held by the National Conference of Canadian Universities and Colleges at Ottawa, November 13-15, 1961 (Ottawa: Le Droit, 1962), p. 13.

⁵³Wolfle, op. cit., p. 163.

⁵⁴Raymond A. Mulligan, "Socio-economic Background and College Enrollment," American Sociological Review, 16 (1951), p. 193.

⁵⁵Hollinshead, op. cit., p. 173.

at university reported on the proportion of married students.

In line with reasoning in the foregoing section where it was suggested there would be an increase in the proportion of older students, it is similarly expected that these older students will often be married. It is possible that marriage would provide motivation for higher occupational status which could be realized if the wife were willing to work. The earlier discussion of high achievement motivation among Catholics in the lower-socio-economic groups is relevant here. The example of married veterans during the 1940's could function as an incentive to those who might otherwise have considered going to university after marriage as impractical.

Religion and University Attendance

It has frequently been pointed out that the desire to go to college is related to values, and that values in turn are related to the particular sub-culture to which the child belongs. One possible classification for sub-cultures is religious affiliation.

Many investigators have found decided differences in the college-going propensities of young people belonging to various religious denominations. Toops' study based on 1935 high school seniors in Ohio determined that various Protestant denominations and Jews have from 30 to 59 per cent of students going to college. Some religions send from none to not over 10 per cent of their students.⁵⁶

Roper's 1947 study, based on a national sample of high school seniors shows the following differences in intention to go to college according to

⁵⁶Herbert A. Toops, "The Prediction of College-Going," School and Society, 51 (1940), pp. 257-61.

religion.

Jewish	68 per cent
Protestant	35 per cent
Catholic	25 per cent ⁵⁷

Roper also supplies figures, duplicated in Table 2:10, on the distribution of students who applied for admission to college by religion and the distribution for the total national sample. An index, which is the ratio of the percentage of each religious group who applied to the percentage of each religious group in the national sample has been calculated.

TABLE 2:10. PERCENTAGE DISTRIBUTION OF HIGH SCHOOL SENIORS WHO APPLIED FOR ADMISSION TO COLLEGE AND OF TOTAL NATIONAL SAMPLE BY RELIGION, SHOWING INDEX OF REPRESENTATIVENESS, UNITED STATES, 1947^a

Religion	Per cent Who Applied and Want to Go Next Fall	Per cent of National Sample	Index
Protestant	67.9%	65.5%	1.03
Catholic	18.3	26.0	.70
Jewish	10.9	5.3	2.06
Other or none	2.9	3.1	.94
Total	100.0	100.0	
N =	3,200	10,063	

^aElmo Roper, Factors Affecting the Admission of High School Seniors To College (Washington: American Council on Education, 1949), p. 251.

Information based on national polls in 1945-46 shows that seven per cent of Catholics and 16 per cent of Jews were college graduates. The percentages for Baptists and Lutherans were comparable to Catholics, but those for Presbyterians, Episcopalians, and Congregationalists were over

⁵⁷Roper, op. cit., p. XXIII.

20 per cent.⁵⁸ However, since the percentage of each denomination belonging to the upper class is similar, (nine per cent of Catholics, 22 per cent of Jews, eight per cent of Baptists, 22 per cent of Presbyterians, 11 per cent of Lutherans, 24 per cent of Episcopalians, and 24 per cent of Congregationalists)⁵⁹ it is possible that differences in educational attainment are the result of differences in socio-economic status rather than religious values. It will be recalled that Rosen found that social class accounted for more of the difference in achievement motivation and values than ethnicity.⁶⁰ On the other hand, he found a more significant relationship between ethnicity and vocational aspiration than between social class and vocational aspiration. Since attendance at university would seem to be implementing a vocational aspiration, ethnicity might be the important variable. Some clarification may be offered by Bendix and Lipset. They state that whereas there is little or no difference between the occupational status achieved by third-generation Catholics and Protestants, except that more Protestants are farmers, among those with recent immigrant background, Protestants are in higher positions than Catholics. That the differences may be the result of ethnic rather than religious factors is seen from the fact that there is little difference in the occupations of first- and second-generation German-American Catholics and Protestants.⁶¹ Since Rosen did not control for generation, it is possible that his

⁵⁸Liston Pope, "Religion and the Class Structure," in Bendix and Lipset, Class, Status and Power, op. cit., p. 320.

⁵⁹Ibid., p. 319.

⁶⁰See p. 23.

⁶¹Lipset and Bendix, Social Mobility in Industrial Society, op. cit., p. 50.

results are reflecting the generation variable rather than the ethnic one. Similarly the ethnic distribution of the upper class reported by Pope may also be related to generation.

Strodtbeck's comparison of third-generation Italian Catholics and Jewish school children 14 to 17 years of age shows that when socio-economic status has been controlled many differences disappear.⁶² Cultural differences stand out because of the great differences in status positions in the two groups. Fifty-seven per cent of the Jews studied have high socio-economic status while only 16 per cent of Italians have comparable status. With reference to university attendance, Strodtbeck found that the percentage of Italians studied who want and expect to go to college is similar to that for other American children, but a significantly higher percentage of Jews aspire to a college education in all three of the socio-economic groups used. Strodtbeck concludes that the values of Jews are more likely to promote high achievement than those of Italians.

Birthplace of Father and University Attendance

This variable allows investigation, to some degree, of the influence of generation on university attendance in Alberta.

In 1947, Roper found that of students who applied for college admission, 78.5 per cent had native-born parents, 19.9 per cent had at least one parent foreign-born, and in 1.3 per cent of cases the student himself was foreign-born. These figures are comparable to the percentage of the total

⁶²Fred L. Strodtbeck, Margaret R. McDonald, and Bernard C. Rosen, "Evaluation of Occupations: A Reflection of Jewish and Italian Mobility Differences," American Sociological Review, 22 (1957), pp. 546-553.

national sample in each category, hence having a foreign-born parent appears to have little influence on desire for university education.⁶³

Rogoff's study on occupational mobility sheds some light on the influence of birthplace of father. She found that in 1910 there was no appreciable difference in the amount and destination of occupational movement experienced by the sons of foreign-born fathers. However, by 1940, sons of foreign-born fathers filled more than their share of positions in professional and proprietor occupations, but were under-represented in manual and service work. Hence, by 1940, sons of foreign-born fathers were experiencing more upward mobility and less downward mobility than the sons of native-born fathers.⁶⁴

THE ASSOCIATION OF PLACE OF RESIDENCE WITH UNIVERSITY ATTENDANCE

Roper states that 26 per cent of high school seniors of rural residence applied for admission to college as compared to 44 per cent in cities of more than one million population.⁶⁵

Hollinshead points out that one important factor in college-going is that educational opportunities in rural areas are very often inferior. A second factor in this connection is propinquity to an institution of higher learning.⁶⁶ That Hollinshead may have oversimplified the factors associated with place of residence and college attendance may be seen from

⁶³Elmo Roper, Factors Affecting the Admission of High School Seniors to College (Washington: American Council on Education, 1949), p. 252.

⁶⁴Rogoff, Occupation Mobility, op. cit., pp. 109-110.

⁶⁵Roper, op. cit., p. XXIII.

⁶⁶Hollinshead, op. cit., pp. 34-35.

two studies. Wilson shows that residence in a university city is somewhat more likely to insure that a student will attend university in Alberta, but "once this factor is taken care of, actual distance seems to make little difference."⁶⁷ Table 2:11 provides figures from Roper based on a 1947 national sample. The distribution of youth who applied for college admission and want to go next fall by community size is compared to the distribution of the total sample.

TABLE 2:11. PERCENTAGE DISTRIBUTION OF HIGH SCHOOL SENIORS WHO APPLIED FOR ADMISSION TO COLLEGE AND OF TOTAL NATIONAL SAMPLE BY COMMUNITY SIZE SHOWING INDEX OF REPRESENTATIVENESS, UNITED STATES, 1947^a

Size of Place	Per cent Who Applied and Want to go Next Fall	Per cent of Total Sample	Index
Over 1,000,000	19.3%	14.9%	1.29
100,000 to 1,000,000	22.9	20.5	1.11
25,000 to 100,000	14.2	11.8	1.20
2,500 to 25,000	19.3	19.2	1.01
Under 2,500	24.3	33.6	0.72
Total	100.0	100.0	
N =	3,200	10,063	

^aElmo Roper, Factors Affecting the Admission of High School Seniors to College (Washington: American Council on Education, 1949), p. 253.

The fact that communities of from 100,000 to 1,000,000 population have a lower index than the next size category suggests that other factors are operating to complicate the picture, or possibly the inconsistency is due to sampling variation.

Rogoff's study based on a national sample of 1955 high school

⁶⁷Lolita Wilson, "How Many Alberta Matriculants Register as Freshmen at the University of Alberta," The Alberta Journal of Educational Research (June, 1958), pp. 109-113.

seniors shows that the per cent of youngsters attending high school in the largest cities who plan to go to college is almost as low as for those residing in the smallest towns and villages and is surpassed by those from the larger towns and suburbs.⁶⁸ Similarly, Duncan and Reiss found that the largest urbanized areas of three million or more have a median educational level lower than other large urban communities but comparable to those falling in the 10,000 to 25,000 range. They suggest that this comparatively low figure is due to the disproportionate number of foreign-born persons in the largest cities.⁶⁹ However, Rogoff reports her figures according to family-status quintiles and the proportion in the lowest quintile in the largest cities is not disproportionately large. Since she is dealing with high school seniors, drop-out rates could have an influence, but according to her estimates the smaller towns would have the highest rates.⁷⁰

Statistics compiled by Duncan and Reiss indicate that the median school years completed by the population 25 years of age and over declines steadily with size of community beginning with those 25,000 or more, but the median is somewhat lower for the largest urbanized areas. Cities of 3,000,000 or more have a median education of 10.3 years, as compared to 10.6 years for cities of 25,000 or more and 8.5 years for farm residents. Education for males and females are comparable for the larger centers, but

⁶⁸Rogoff in Halsey, Floud, and Anderson, op. cit., p. 247.

⁶⁹Otis Dudley Duncan and Albert J. Reiss, Jr., Social Characteristics of Urban and Rural Communities, 1950 (New York: John Wiley & Sons, Inc., 1956), p. 88.

⁷⁰Rogoff, in Halsey, Floud, and Anderson, op. cit., pp. 247-248.

beginning with communities 2,500 to 10,000, females have slightly more education. A breakdown by age shows that for all sizes of communities the median educational level has risen since the beginning of the century, but the amount of increase is greatest for the largest urbanized areas. There is a gain of almost four years for such areas, but a gain of only slightly more than one year for farm residents.⁷¹

With reference to urban influence, Duncan and Reiss found that education in rural areas varied directly with the size of the largest city in the county.⁷² They state that the results make it clear that blanket characterizations of the rural population tend to be less accurate to the degree that the rural population falls into the area of dominance of urban centers.⁷³

While the Duncan and Reiss statistics are not directly concerned with university attendance, they do have important implications.

In making comparisons between Canadian and United States figures on education the differences in definitions for "rural" and "urban" should be kept in mind. In Canada, before 1951, the Canadian Bureau of Statistics defined as rural any community regardless of size which was not incorporated. After 1951, communities of under 1,000 were classified as rural and all others as urban. In 1961, urban fringe areas were also defined as urban. Before 1950, the United States census defined as urban all incorporated communities of 2,500 and over. All others were defined as rural. Since 1950, the urban fringe has been included in the urban category

⁷¹Duncan and Reiss, op. cit., p. 89.

⁷²Ibid., p. 161

⁷³Ibid., p. 168.

regardless of incorporation. These differences mean that comparisons between countries must be made with caution.

THE ASSOCIATION OF SOCIO-ECONOMIC STATUS WITH UNIVERSITY ATTENDANCE

Criteria of Social Stratification

In spite of democratic ideological considerations, it has long been recognized that social classes exist as a fact. The task of the sociologist has been to attempt to find ways of meaningfully categorizing and describing these classes, and to explain their existence.

That the situation is extremely complex may be seen from the variety of approaches which have been taken to accomplish description and explanation. There is no general agreement as to the factors which delineate social classes. Are they based primarily on economic factors, occupation, power, status feelings, cultural differences, associations, or prestige? Some investigators prefer to look at particular situses, such as the military, economic, political, or religious, and to think in terms of varying positions for a given individual within each situs, the generalized position from these various situses being his final social class position. It is argued that this is what is intuitively being done when one individual ascribes to another a given social class position.⁷⁴

The discussion as to whether objective or subjective criteria are better for understanding social classes has been debated elsewhere. Barber

⁷⁴See Paul K. Hatt, "Stratification in the Mass Society," American Sociological Review, 15 (1950), pp. 216-222, for a review of the areas of disagreement.

states that both are important ingredients in social stratification.⁷⁵ The decision as to which to use depends on the purpose of the investigation. The primary concern here is the question: which of these criteria have the most relevance in predicting who will go to university? In addition it is necessary to take into consideration the data which is available for this study.

A brief review of some of the empirical findings relative to the criteria used to define social class is presented.

Haer has attempted to assess the predictive efficacy of five indices of social stratification: Centers' class identification, open-end questions, occupations classified according to United States census categories, education, and Warner's Index of Social Characteristics. Each is used to predict behavior in eight general areas which have been previously shown to be related to class. He found Warner's I.S.C. to be the best predictor, and education the second best. The ability of the other three indices to predict class-related behavior was negligible.⁷⁶ Haer states ". . .with respect both to the magnitude of the coefficients and the number of successful comparisons, the objective indices have higher predictability than the subjective."⁷⁷

The rank ordering of the predictive ability of the five indices used is as follows: (1) Warner's I.S.C., (2) education, (3) occupation

⁷⁵Bernard Barber, Social Stratification, A Comparative Analysis of Structure and Process (New York: Harcourt, Brace & Co., 1957), p. 59.

⁷⁶John L. Haer, "Predictive Utility of Five Indices of Social Stratification," American Sociological Review, 22 (1957), pp. 541-546.

⁷⁷Ibid., p. 544.

classified according to U.S. census categories, (4) open-end question, and (5) Centers' categories.

The foregoing is not entirely consistent with the findings of Kahl and Davis.⁷⁸ Using 19 scores which measured some aspect of socio-economic status, tetrachoric correlations and factor analysis were used. Two main factors were found--one relating to the consequents of occupational position, such as education, source of income, self-identification of subject, and the other to what is suggested to be the "cultural lag" in the mobile life cycle, such as residential area, status of parents, and house type. The best single index of socio-economic status was found to be an occupational scale such as Warner's or that used by the Census Bureau. Prestige scales do not load as high as objective scales. Income had an equal loading on both common factors, and not a very high one at that. "Observation suggests that the core of status is a culturally defined, group-shared style of life, and income is a necessary but not a sufficient condition thereof."⁷⁹ However, of the 97 per cent of respondents who said there was a class order, 61 per cent used as the main criterion of differentiation income and/or the style of life it bought.

The rank ordering of the predicting indices is as follows: (1) occupations (Warner), (2) education, (3) source of income, (4) dwelling area, (5) house type, and (6) amount of income.

That there is disagreement regarding the use of objective criteria

⁷⁸Joseph A. Kahl and James A. Davis, "A Comparison of Indexes of Socio-economic Status," American Sociological Review, 20 (1955), pp. 317-325.

⁷⁹Ibid., p. 322.

may be seen from Hatt's comment that classes do not stand simply for economic level. "An Occupational Scale based on prestige allows for variation in terms of other than financial rewards."⁸⁰

Simpson and Simpson, as a result of a study to determine the intrinsic features of occupational prestige, suggest that training-education-skill and responsibility are the two variables upon which prestige rests.⁸¹

The prestige scale most often used is the North-Hatt National Opinion Research Center scale which follows the pattern established by Counts in 1925, Mapheus Smith in 1943, Deeg and Patterson in 1947, and Tuckman in Montreal, Canada, in 1947, to mention a few. All of these studies show a high degree of correlation.⁸²

The Blishen scale, which is based on 1951 Canadian census figures, arranges occupations in a hierarchy according to income and years of schooling.⁸³ Blishen found a rank correlation of 0.94 between his scale and the NORC. Blishen believes his scale reflects the same variables which underlie prestige scales inasmuch as income and education are indicators

⁸⁰Hatt, op. cit., p. 222.

⁸¹Richard L. Simpson and Ida Harper Simpson, "Correlates and Estimation of Occupational Prestige," American Journal of Sociology, 46 (1960), pp. 135-140.

⁸²See Mapheus Smith, "An Empirical Scale of Prestige Status of Occupations," American Sociological Review, 8 (1943), pp. 185-192, and Jacob Tuckman, "Social Status of Occupations in Canada," Canadian Journal of Psychology, 1 (1947), pp. 71-74.

⁸³Bernard R. Blishen, "The Construction and Use of an Occupational Class Scale," Canadian Journal of Economics and Political Science, 24 (1958), pp. 519-531.

of the amount of specialized training and amount of responsibility involved in an occupation.

If Blishen's conjecture is correct, and his rank correlation would indicate it is, he has succeeded in providing an objective scale which reflects subjective criteria. One of the important features of this scale is that it includes 343 occupations, which makes the task of classifying more reliable than is the case when NORC is used and interpolations made.

Socio-economic Status and University Attendance

Socio-economic status has long been recognized as the most important single predictor of university attendance. A large body of literature is available in this connection. The studies referred to here have been chosen for their relevance to this particular study. Included are investigations which classify socio-economic status according to multiple-factor approaches, occupation of family head, education of family head, or income.

The first two studies concern the plans of high school seniors to attend college. Roper reports figures by occupational categories based on a sample of 15,000 high school seniors which was considered to be representative of the total number of white students in graduating high school classes of the United States in 1947. It will be observed from Table 2:12 that students from white-collar families have plans to attend university in greater proportions than they are represented in the total sample. The professional and executive group is the most over-represented of all categories. All blue-collar categories are under-represented. It will be recalled that Rogoff's study discussed earlier showed a consistent

TABLE 2:12. PERCENTAGE DISTRIBUTION OF HIGH SCHOOL SENIORS WHO APPLIED FOR COLLEGE ADMISSION AND PERCENTAGE DISTRIBUTION OF NATIONAL SAMPLE BY OCCUPATION OF FATHER, SHOWING INDEX OF REPRESENTATIVENESS, UNITED STATES, 1947^a

Occupation of Father	Percentage Distribution of Those Who Applied	Percentage Distribution of Total Sample	Index
Professional and executive	25.0%	11.3%	2.21
Small business proprietor	16.4	11.9	1.38
White-collar worker	17.6	13.4	1.31
Service trades worker	11.0	17.3	0.64
Factory and other worker	13.3	23.4	0.57
Farmer	7.4	12.3	0.60
Other	7.9	8.9	0.88
Don't know and no answer	1.4	1.5	
Total	100.0	100.0	
N =	3,200	10,063	

^aElmo Roper, Factors Affecting the Admission of High School Seniors To College (Washington: American Council on Education, 1949), p. 243.

decrease in college-going plans with family status even when scholastic ability was controlled.⁸⁴

The figures for those who plan to go to college are not necessarily comparable to figures for actual attendance. A number of studies present figures in terms of the percentage of youth from various occupational categories who actually go to college or in terms of an index of representativeness. These are presented in chronological order to facilitate comparisons over time.

Toops studied the records of 32,058 high school seniors who in December 1935 were enrolled in more than a thousand Ohio schools.⁸⁵ He also conducted a follow-up to determine which ones went to college by asking colleges to send lists of all Ohio entrants, and checking against

⁸⁴See p. 11.

⁸⁵Toops, op. cit., p. 560.

his list of high school seniors. Toops provides figures on the percentage of young people who go to college whose fathers are employed in a few specific professions.

TABLE 2:13. PER CENT OF HIGH SCHOOL SENIORS WHO GO TO COLLEGE BY OCCUPATION OF FATHER, OHIO, 1935^a

Occupation of Father	Per cent Who Go To College
College professors	73%
Physicians	61
Veterinarians	58
Dentists	54
Bankers, Lawyers	53

^aHerbert A. Toops, "The Prediction of College-Going," School and Society, 51 (1940), p. 560.

The disparity in percentages of these high level professionals is of considerable interest. Similar differences are no doubt present within the categories used in the following studies.

A study by Smith of almost 5,500 Kansas college freshmen in 1934-38 provides percentage distribution of students by occupation of father which is compared to the distribution of male employed workers in Kansas and Kansas City, Mo., for 1940.⁸⁶ The figures are presented in Table 2:14.

Mulligan's study of male students at Indiana University in 1947 was an attempt to determine the representativeness of the various socio-economic groups at the university.⁸⁷ His comparisons of veterans and non-veterans provides some measure of the degree to which financial assistance

⁸⁶Smith, op. cit., (1942).

⁸⁷Raymond A. Mulligan, "Socio-economic Background and College Enrollment," American Sociological Review, 16 (1951), pp. 188-196.

changes the proportion of students coming from the lower social class groups. He found that financial assistance increased the proportion of students from the lower socio-economic groups attending the university by more than 60 per cent. Furthermore, if one separates out those veterans who were at college before military service, the percentage goes up to 90.

TABLE 2:14. PERCENTAGE DISTRIBUTION OF COLLEGE FRESHMEN AND OF THE MALE LABOR FORCE BY OCCUPATIONAL CATEGORY, SHOWING INDEX OF REPRESENTATIVENESS, KANSAS, 1934-38^a

Occupational Class	Percentage Distribution Student's Fathers	Percentage Distribution Male Labor Force	Index
Professional	18.28%	5.71%	3.20
Proprietors	28.18	11.04	2.55
Clerical	8.57	6.67	1.29
Salespeople	8.60	7.31	1.18
Public Service	2.97	2.51	1.18
Foremen	1.93	1.56	1.24
Skilled	8.89	11.43	.78
Semi-skilled	1.66	13.36	.12
Domestic and Personal Service	2.17	4.65	.47
Unskilled	1.77	10.79	.16
Farmers	16.98	24.97	.68
Total	100.00	100.00	
N =	5,500		

^aMapheus Smith, "University Student Intelligence and Occupation of Father," American Sociological Review, 7 (1942), pp. 764-771.

Specifically the increases are as follows: semi-skilled, 148 per cent; skilled, 88 per cent; and unskilled, 61 per cent. Mulligan points out that in spite of these increases the semi-skilled and unskilled categories are still under-represented.

Mulligan concludes that the absence of talented students from the white-collar and skilled groups in institutions of higher learning is due,

TABLE 2:15. PERCENTAGE DISTRIBUTION OF MALE UNIVERSITY STUDENTS AND OF MALE LABOR FORCE BY OCCUPATIONAL CLASS SHOWING INDEX OF REPRESENTATIVENESS, INDIANA, 1947^a

Occupational Class	Percentage Distribution Student's Fathers	Percentage Distribution Male Labor Force	Index
Professional	13.9%	4.2%	3.31
Proprietors, dealers	12.4)		
Managers, officials	11.2)	8.3	2.84
Clerks	17.2	11.9	1.45
Skilled	17.9	16.4	1.09
Semi-skilled	6.2	19.4	.32
Unskilled	6.4	24.3	.26
Farmers	9.4	14.0	.67
Unknown	5.4	1.2	
Total	100.0	100.0	
N =	1,178		

^aRaymond A. Mulligan, "Socio-economic Background and College Enrollment," American Sociological Review, 16 (1951), p. 191.

on the whole, to economic factors rather than to cultural factors, but that, in general, the absence of talented students from farming, semi-skilled and unskilled groups is due, on the whole, to cultural factors rather than to purely economic ones. It is questionable that this conclusion is warranted on the basis of the evidence presented. Mulligan has failed to take into consideration the high drop-out rate in the lower socio-economic categories. It is not known whether many of the young men from these groups failed to take advantage of financial assistance in order to go to university because they lack a cultural background which values education, or because they lacked the necessary entrance requirements.

In another study to determine if college students from the lower socio-economic groups deviate from class norms on certain social characteristics, Mulligan found that in all rural-urban settings the proportion

of students from the white-collar groups exceeds that of students from the blue-collar.⁸⁸ In addition, a direct ratio is found between the proportion of students from the blue-collar groups and the size of city populations up to a size of 500,000. Mulligan also reports on family size, education of parents, and religion. In all cases he found relationships to be similar to those reported for the population as a whole. Hence, the findings indicate that students from lower socio-economic groups do not deviate from class norms for their group so far as this study is concerned.

Anderson compares rates of university-going for over twenty countries. He finds that in all countries the majority of students come from nonmanual families, who are a minority of the population. They represent from 60 to 90 per cent of students. Some figures are provided for United States whites which are reproduced in Table 2:16. The index is the percentage of the occupational classification attending university in 1947 divided by the percentage of that classification in the male labor force.

A comparison of the Smith and Mulligan studies reveals considerable correspondence between figures in spite of a time difference of more than ten years and differences in state population figures. While a small increase at all levels except farmers is indicated, the greatest advance has been made by the skilled category.

The agreement between the Anderson figures and those of Smith and Mulligan is striking. Farmers, professionals and proprietors have similar

⁸⁸Raymond A. Mulligan, "Social Characteristics of College Students," American Sociological Review, 18 (1953), pp. 305-310.

TABLE 2:16. INDICES OF REPRESENTATIVENESS FOR UNIVERSITY STUDENTS BY OCCUPATIONAL CLASSIFICATIONS, UNITED STATES, 1947^a

Occupational Classification	Index
Agriculture	0.62
Non-agricultural labor	0.56
Non-agricultural non-labor	1.8
Professional	3.4
Private entrepreneurs	3.0
Large business	4.3
Small business	1.6

^aC. Arnold Anderson, "Access to Higher Education and Economic Development," in A. H. Halsey, Jean Floud, and C. Arnold Anderson, Education, Economy, and Society (Glencoe, Illinois: The Free Press, 1961), pp. 252-265.

TABLE 2:17. PERCENTAGE OF HIGH SCHOOL GRADUATES WHO ENTERED COLLEGE BY OCCUPATION OF FATHER, UNITED STATES, 1950^a

Occupation of Father	Per cent High School Graduates Who Entered College
Professional and semi-professional	67%
White-collar (clerical, sales, service)	48
Managerial	50
Factory, craftsmen, unskilled, etc.	26
Farmer	24

^aDael Wolfle, America's Resources of Specialized Talent (New York: Harper & Brothers, 1954), p. 160.

indices in all three.

Table 2:17 shows estimated figures of the percentage of high school seniors in each occupational category who entered college in the United States in 1950.

White conducted over 1,000 interviews with students in the 1950 high school graduating class in the Cleveland-Akron-Lorain metropolitan

area to determine their plans to attend college.⁸⁹ Family status was rated using Warner's I.S.C. A follow-up was conducted to determine who had actually enrolled in college.

White found that the social class distribution for males and females going to college is significantly different. Females outnumber males in the upper-lower and the lower-lower classes, but males outnumber females in the upper-middle and lower-middle classes.

White also found that the two highest social classes go to college in a proportion twice as great as is their proportion in the population. They account for 47.5 per cent of those who enrolled in college, but for only 24.0 per cent of the total secondary school graduates. On the other hand, the two lowest classes supplied 28.6 per cent of college freshmen but accounted for 50.2 per cent of secondary school graduates. Once more, when IQ's were held constant the probability that a student would go to college varied directly with his social class position.

Figures presented by Havighurst provide a time perspective. Only part of his table has been duplicated in Table 2:18. The decided increase in college attendance in all social classes is readily apparent.

The relationship between income and college attendance is shown in the results of a study of a thousand students graduated from the Milwaukee High Schools in 1937 and 1938. The IQ's of these students ranged from 117 to 146, hence all of them had sufficient ability for a college education. Whether or not they went to college depended to a great extent upon their parents' income.

⁸⁹White, op. cit., Chap. 4.

TABLE 2:18. PERCENTAGE OF YOUNG PEOPLE WHO ENTER COLLEGE BY SOCIAL CLASS, UNITED STATES, 1920-1960^a

Social Class	1920 ^b	1940 ^b	1952 ^c	1960 ^b	
				M	F
Upper and Upper-Middle	40%	80%	90%	85%	70%
Lower-Middle	10	20	37	55	35
Upper-Lower	2	5	10	25	18
Lower-Lower	--	--	10	10	5

^aRobert J. Havighurst, American Higher Education in the 1960's (Columbus, Ohio: Ohio State University Press, 1960).

^bEstimated for the United States.

^cA Midwestern city.

TABLE 2:19. RELATION BETWEEN PARENTAL INCOME AND ATTENDANCE AT COLLEGE FOR A GROUP OF 1,000 MILWAUKEE HIGH SCHOOL GRADUATES, 1937 and 1938^a

Parents' Income	Per cent of High School Graduates in College
\$8,000 and up	100.0%
5,000-7,999	92.0
3,000-4,999	72.9
2,000-2,999	44.4
1,500-1,999	28.9
1,000-1,499	25.5
500-999	26.8
Under \$500	20.4

^aBernard Barber, Social Stratification, A Comparative Analysis of Structure and Process (New York: Harcourt, Brace and Company, 1957), pp. 400-401.

These figures show the pattern of differential access to education very clearly.

Hollinshead shows that the probability of attending college is greatly increased by high family income in all quarters of academic ability. Table 2:20 reproduces his figures on college attendance by parents'

income and rank in class for New York State, 1940. The relationship is the same as when social class groupings are used. However, the children of ministers and school teachers, who have moderate incomes, attend colleges out of all proportion to their numbers.

TABLE 2:20. COLLEGE ATTENDANCE RATES OF HIGH SCHOOL GRADUATES BY PARENTS' INCOME AND RANK IN CLASS, NEW YORK STATE, 1940^a

Rank in Class	\$2,500- 4,999	\$5,000- 8,999	\$9,000 and over	Total of All Income Groups
Highest quarter	41%	60%	76%	43%
Second quarter	26	27	56	21
Lower half of class	13	27	44	12
Total all ranks	26	37	62	23

^aByron S. Hollinshead, Who Should Go To College (New York: Columbia University Press, 1952), p. 33.

Earlier figures were presented which showed that the ratio for farm youth who attend university in the United States to the total population is approximately .60 to .70. While figures are not available by farm size for the United States, in order to indicate how misleading averages can sometimes be, ratios for Denmark are quoted:

Farm: all	0.44
small, medium	0.35
Large	10.0
Professions	5.5 ⁹⁰

The above indicates that while the ratio for farmers in general is low, accurate predictions cannot be made without knowledge of size of farm or some other information which differentiates the farmer who is merely gaining a living from the land, and the farmer who is operating a large

⁹⁰Anderson, in Halsey, Floud and Anderson, op. cit., p. 264.

and profitable enterprise. Sjoberg's comments regarding social class based on occupational categories may be particularly pertinent to the case of farmers (see page 30).

The following three studies provide some information on the relationship between education of parents and college attendance for 1935, 1947, and 1954.

Based on information collected in 1935, Toops reports that in families where both parents went to college 53 per cent of the children go, but in families where neither parent went to college only 13 per cent of the children attend.⁹¹ Roper's 1947 study shows that 66 per cent of high school seniors whose fathers went to college had applied for admission themselves, while 20 per cent of students whose fathers had only grade school education applied.⁹² In 1954, using a 10 per cent sample of seniors in public high schools in the State of Washington, Slocum found that 70 per cent of those whose fathers were college graduates were planning to go to college, while only 30 per cent of those whose parents had only eighth grade education or less had such plans.⁹³

While these studies are not directly comparable, they do suggest an increase over time in college attendance according to education of parents. The largest increase is for students coming from homes with low education.

Roper also provides information, shown in Table 2:21, regarding the percentage distribution of high school seniors in 1947 who applied for college

⁹¹Toops, op. cit.

⁹²Roper, op. cit., p. XXIII.

⁹³W. L. Slocum, "Educational Planning by High School Seniors," Journal of Educational Research, 51 (1958), pp. 583-590.

admission by education of father. For the purpose of comparison the distribution of the total national sample is also shown.

TABLE 2:21. PERCENTAGE DISTRIBUTION OF STUDENTS WHO APPLIED FOR COLLEGE ADMISSION AND NATIONAL SAMPLE BY FATHER'S EDUCATION SHOWING INDEX OF REPRESENTATIVENESS, UNITED STATES, 1947^a

Father's Education	Percentage Distribution of Those Who Applied and Want to Go Next Fall	Percentage Distribution of National Sample	Index
Post graduate	4.2%	2.1%	2.00
College graduate	15.5	7.6	2.04
Some college	12.6	7.8	1.62
High school graduate	21.5	16.8	1.28
Some high school	16.1	18.6	0.87
Grade school	20.4	35.3	0.58
No schooling	0.4	0.8	0.50
Don't know	7.1	11.0	0.65
No answer	0.2		
Total	100.0	100.0	
N =	3,200	10,063	

^aElmo Roper, Factors Affecting the Admission of High School Seniors To College (Washington: American Council on Education, 1949), p. 251.

It will be observed that there is a steady increase in the relative proportion who have college plans as education of father increases. However, when father's education exceeds that of college graduate there appears to be no additional influence.

One Canadian study provides information which is relevant to socioeconomic class and university attendance. Jackson and Fleming found that in Ontario for the year 1955-56, professional, managerial, and executive occupations contributed a disproportionate number to the number who went to university. They also found that the better educated the parents the more

likely the children are to go to university.⁹⁴

SUMMARY

The foregoing has been an attempt to cover factors involved in the decision to go to university, to show the relevance of education to social mobility, and to illustrate the association between certain social characteristics and university enrollment. As a result of this review, some predictions can now be made regarding the associations one might expect to prevail in Alberta.

With reference to sex, it is expected that males will outnumber females at the University of Alberta for all time periods. In addition, it is expected that the disparity will be greater for the early periods than for the more recent ones, at which time a ratio of 3:2 males to females will be approached. It is estimated that Canada is some twenty years behind the United States with regard to university attendance,⁹⁵ hence the proportion of female students is not likely to be as great as in the United States. On the other hand, Alberta is one of our wealthier provinces, and for this reason it is expected that the Canadian national average will be exceeded.

Considering the age variable it is expected there will be more males than females in the older age categories at the University of Alberta. In view of the increased awareness of the advantages to be gained from higher education, there may be a trend toward greater representation of the

⁹⁴R. W. B. Jackson, "Selection of University Students," Proceedings, The National Conference of Canadian Universities, 1958 (University of Alberta), pp. 31-40.

⁹⁵Sheffield, op. cit., p. 13.

the older age categories over time. In addition, students from the lower socio-economic groups are likely to be somewhat older than those from higher groups.

It is predicted that married students will more often be male than female, that the trend will be for an increase in the proportion of married students over time, and that married students will more often be Catholic than Protestant.

Regarding religion, consistent with findings elsewhere, it is expected that the three main religious groups will be represented at university in the following rank order: Jews, Protestants, Catholics. Unfortunately no information is available regarding the representativeness of the Fundamentalist religions at university.

Since the economic factor will influence the university-going propensity of any group, part of the religious differences will be the result of lack of finances. For example, Catholics in general immigrated to Alberta during a later period than Protestants and came from less privileged backgrounds.⁹⁶ However, since Catholics apparently react with increased achievement motivation to economic pressure, it is expected the differences will be mitigated with time. This reaction to economic pressure would compensate to some degree for the lesser aspirations of Catholic mothers for their sons. Hence, while differential university attendance may be pronounced for Protestants and Catholics during the early periods of this study, it is suggested that over time these differences will tend to diminish. Lower-class Catholics are predicted to be

⁹⁶1951 Census of Canada, Vol. 10, p. 90.

better represented than lower-class Protestants.

In line with Rogoff's findings it is predicted that students with foreign-born parents will be represented at university at or near their proportion in the provincial population during the early periods, but to be slightly over-represented by 1960-61.

It has been pointed out that improved highways and vehicles have broken down the seclusion and provincialism of rural life. They have disrupted stable local groupings such as the county school. City values, ideals and standards are spreading into rural areas creating a more homogeneous value system.⁹⁷ It is expected that such changes will be reflected in the desire of rural youth for a university education. Thus it is predicted that in the earlier periods of this study rural communities will be less well represented than in the later periods. It is also expected that the factor of propinquity will continue to have an influence such that rural areas remain somewhat less well represented than urban areas. Over time young people from urban areas will have increased their proportions at university to a greater degree than rural areas, but it is predicted that such differences will not hold when urban influence on rural communities is taken into consideration. It is thought that females from smaller communities and rural areas will be better represented at university than males. This latter expectation applies particularly to the later decades of the study. It is also predicted that the largest cities will be less well represented than the more moderate size cities.

Concerning the influence of socio-economic status on university-

⁹⁷Walter Firey, Charles Loomis, and J. Allan Beegle, "The Fusion of Urban and Rural," in Hatt and Reiss, op. cit., pp. 214-222.

going, a persistent finding in the review was that the higher the socio-economic standing of the father, the higher the probability that young people will go to university, regardless of what objective measure is used to classify socio-economic status. It is expected that females will outnumber males at the lowest levels. Over time the largest increases will be from the lower socio-economic categories.

CHAPTER III

FACTORS INFLUENCING SOCIAL MOBILITY IN ALBERTA

In Chapter II some of the factors which may encourage social mobility other than individual achievement, were discussed. This chapter will review information and statistics with particular reference to the Province of Alberta in order to assess the influence of these factors on the results obtained in this study.

Changes during the time period 1921 to 1961 which indicate the growth of Alberta's population, the process of urbanization, economic development, the effects of immigration, and the changing aspects of the family will be reviewed.

THE GROWTH OF ALBERTA'S POPULATION

The growth of the population of the Province of Alberta is illustrated in Table 3:1. The population has increased by over 125 per cent during the forty year period from 1921 to 1961, in spite of the fact that from 1931 to 1951 there was considerable movement out of the province. Much of the increase between 1951 and 1961 is the result of immigration. During that decade 112,520 people immigrated to Alberta.

Table 3:2 shows the proportion of the total population in the 15-24 year old age group for each year. The trend is for this age group to decrease in proportion relative to the total population.

TABLE 3:1. GROWTH OF THE POPULATION OF THE PROVINCE OF ALBERTA, 1921-1961^a

Decade	Year	Population Number	Actual Number	Increase Per cent	Natural Increase Number	Increase Per cent	Net Migration Number	Migration Per cent
1921-31	1921	588,454	143,151	24.3%	b		b	
1931-41	1931	731,605	64,564	8.8	106,405	14.5	-41,841	-5.7
1941-51	1941	796,169	143,332	18.0	150,303	18.9	- 6,971	-0.9
1951-61	1951	939,501	392,443	41.8	265,195	28.2	127,248	13.5
	1961	1,331,944						

^a1921-31, 1961 Census of Canada, Bulletin 7.1-1, Table 2, p. 1-32.
 1931-41, 1941 Census of Canada, I, Table V, p. 17.
 1941-51, 1951 Census of Canada, X, Table II, p. 13.
 1951-61, 1961 Census of Canada, Bulletin 7.1-1, Table 2, p. 1-32.

^bNot available.

TABLE 3:2. PERCENTAGE OF TOTAL POPULATION OF 15-24 AGE CATEGORY ALBERTA, 1921-1961^a

Year	Total Population	15-24 Years Number	Per cent
1921	588,454	93,403	15.87%
1931	731,605	139,249	19.03
1941	796,169	151,972	19.09
1951	939,501	149,468	15.91
1961	1,331,944	188,158	12.12

^a1921, 1921 Census of Canada, II, Table 10, p. 34.
 1931, 1931 Census of Canada, III, Table 20, p. 326.
 1941, 1941 Census of Canada, III, Table II, pp. 161-163.
 1951, 1951 Census of Canada, I, Table 21, pp. 7-8.
 1961, 1961 Census of Canada, Bull. 1.3-3, 6-8-1963, Table 86.

THE PROCESS OF URBANIZATION

Rural to urban migration is one indicator of the process of urbanization. To what degree has Alberta changed from a predominantly agricultural and rural province to a more urban one? Table 3:3 helps answer this question.

TABLE 3:3. NUMERICAL AND PERCENTAGE DISTRIBUTION OF POPULATION BY PLACE OF RESIDENCE, ALBERTA, 1921-1961^a

Year	Total Population	Rural		Urban	
		Number	Per Cent	Number	Per Cent
1921	588,454	411,284	69.9%	177,170	30.1%
1931	731,605	503,723	68.9	227,882	31.1
1941	769,169	545,564	68.5	250,605	31.5
1951	939,501	509,413	54.2	430,088	45.8
1961	1,331,944	480,368	36.1	851,576	63.9

^aDominion Bureau of Statistics, 1961 Census of Canada, Bulletin 7.1-2, 5-4-1963, Table I, p. 2-25. The definition used for "rural" and "urban" is not stated in the DBS Table. Comparison to other figures suggests the 1951 definition.

It will be seen that the proportions approach reversing themselves in the forty years since 1921. For the purpose of comparison, in 1950 the population of the United States was 64 per cent urban. Alberta seems to be about ten years behind in this connection.

Another way of assessing the reduction of rural population is by

TABLE 3:4. FARMS AND FARM POPULATION, ALBERTA, 1921-1961^a

Year	Number of Farms	Average Area in Acres	Per cent of Population
			Living on Farms
1921	82,954	353.12	--
1931	97,408	400.15	51.3
1941	99,732	433.94	48.2
1951	84,315	527.30	36.7
1961	73,212	645.09	21.5

^aNumber and average area of farms from Department of Industries and Labour, Province of Alberta, Charts of Progress, 1953, Edmonton, 1961, Farm Economics Branch, Dept. of Agricul., Prov. of Alberta, personal communication. Farm population figures from Department of Industries and Labour, Province of Alberta, Facts and Figures, 1954, Edmonton, p. 27; 1961, 1961 Census of Canada, Bulletin 1.3-3, 6-8-63, Table 86.

examining farms and farm populations. This has been done in Table 3:4 which shows a steady decrease in the percentage of the population living on farms, and a steady increase in the size of farms. In addition, there was an increase in the number of farms until 1941, at which time increased technology and the Second World War created changes which resulted in a reversal of the trend. A situation now exists where fewer people are operating fewer but larger farms. This is consistent with the belief that farming is tending to be administered in the manner of an urban business. The observation that many farm owners now live in town adds weight to the premise.

Another urbanizing influence on rural areas involves the consolidation of schools. Table 3:5 shows a steady increase in the number of school rooms since 1934-35, as would be expected from the fact of increased population. The number of schools also increased until 1940-41, but in the twenty years since then there has been a sharp drop in number. The use of buses to transport students has made it possible to bring students some distance to larger schools where more and better facilities can be offered.

TABLE 3:5. NUMBER OF SCHOOLS AND NUMBER OF ROOMS IN OPERATION, ALBERTA, 1920-1961^a

Year	Number of Schools in Operation	Number of Rooms in Operation
1920	2,826	4,289
1934-35	3,449	5,815
1940-41	3,639	6,276
1950-51	2,136	6,232
1960-61	1,416	11,285

^aDepartment of Education, Province of Alberta, Report, 1961, Edmonton, Table II, p. 200.

Not only does the practice enlarge the experience of the rural child, but it also provides him with an education more nearly comparable to that obtained by urban children.

A factor which has made transportation of children to consolidated school feasible has been the improved quality and quantity of highways and vehicles. Table 3:6 provides statistics on highways for each decade since 1921. The sharp increase in paved and gravel highways since 1941 carries

TABLE 3:6. MILES OF HIGHWAY AND ROAD, PROVINCE OF ALBERTA, 1922-1961^a

Year	Paved	Gravel	Earth	Total ^b
1922	None	d	d	59,400
1931	Negligible	d	d	62,426
1941 ^c	531	3,310	75,478	79,319
1951	1,167	18,989	64,230	84,386
1961	3,663	47,458	39,625	90,746

^aDepartment of Highways, Surveys Branch, Province of Alberta, personal communication.

^bLocal and farm roads comprise about 95 per cent of total.

^cA change in the manner of calculating highway mileage was introduced between 1931 and 1941. Earlier periods may be over-estimated.

^dNot stated.

many implications for the process of urbanization. Nearness of rural areas to the closest city is better measured in terms of time than miles. Thus a villager who in 1921 might go to the city twice a year, may in 1961 find it convenient to go for weekly shopping. Aside from highways, the factor which makes this possible is the ownership of a fast car or truck. From Table 3:7 it is apparent that large numbers of people now have such transportation available. In 1921 there was a motor vehicle for every 14.7 Albertans. By 1961, there was one for every 2.6.

TABLE 3:7. REGISTRATION OF MOTOR VEHICLES, ALBERTA, 1921-1961^a

Year	Number of Cars	Number of Commercial Vehicles
1921	38,165	1,687
1931	78,782	15,034
1941	95,921	29,466
1951	166,568	90,144
1961	355,374	149,919

^aDepartment of Highways, Motor Vehicles Branch, Province of Alberta, personal communication.

Another urbanizing influence is to be found in mass communications including radio, television, and newspapers. As a consequence of their spread, urban values are radiating into rural areas and creating a more homogeneous value system.

The process of urbanization is in general creating a situation in which there are now comparatively few truly isolated areas, either physically or psychologically. Small communities which forty years ago followed a sub-culture of their own, divorced from urban life, today are in close contact with the city physically and as a result have adopted similar values and attitudes.¹

ECONOMIC DEVELOPMENT

Since 1921 the economy of Alberta has expanded impressively. One way by which this development may be evaluated is by observing the increase in per capita net value of production. This information is presented in Table 3:8 for the period 1938 to 1960 for both Alberta and Canada.

¹Walter Firey, Charles Loomis and Allan J. Beegle, "The Fusion of Urban and Rural," in Hatt and Reiss, Cities and Society (Glencoe, Illinois: The Free Press, 1961), pp. 214-222.

It will be observed that while Alberta was behind the average for the country as a whole in 1941, by 1951 it exceeded the national average by a considerable margin.

TABLE 3:8. PER CAPITA NET VALUE OF PRODUCTION, ALBERTA AND CANADA, 1938-1960^a

Year	Alberta	Canada
1938	250	247
1941	272	379
1946	526	507
1951	1,007	923
1960	1,213	1,076

^aDepartment of Industries and Labour, Province of Alberta, Facts and Figures, 1954, Edmonton, p. 198. 1961, Bureau of Statistics, Province of Alberta, personal communication.

In order to show the increase in specific industries, Table 3:9 has been prepared showing the value of production in some main industries. It will be seen that there is a marked jump in value of production between 1941 and 1951. The factors associated with this increase relate to the demands for greater production during and after the Second World War, and the discovery of oil in the Leduc field in 1947.

So far we have considered only production. What about prosperity? "Income in large measure is distributed through the channels of trade and commerce, and its turnover in trading, even within the same area, results in general prosperity."² Table 3:10 shows figures for wholesale and retail trade over the period 1930 to 1961.

As with the industrial figures the greatest increase follows 1941, with trade in 1951 being four times as great as in 1941.

²Department of Industries and Labour, Province of Alberta, Charts of Progress, 1953, Edmonton.

TABLE 3:9. VALUE OF PRODUCTION, BY INDUSTRY, PROVINCE OF ALBERTA, 1921-1961^a

Year	Gross Value of Agricultural Products	Total Value of Mineral Production	Value of Crude Petroleum Production	Gross Value of Manufactured Products
1921	\$136,355,276	\$ 30,562,229	\$ 48,313	--
1931	148,048,008	23,580,727	3,976,220	\$ 62,640,857
1941	204,689,200	41,364,385	13,985,906	142,651,493
1951	751,211,000	168,144,211	113,870,152	458,281,384
1961	784,157,000	463,709,000	355,125,000	942,100,000

^a Agriculture--1921-1951, Department of Industries and Labour, Province of Alberta, Charts of Progress, 1953; 1961, Farm Economics Branch, Department of Agriculture, Publication No. 121, "Summary of Statistics of Alberta 1960 and 1961." Mineral Production and Petroleum Production--1921-1951, Department of Industries and Labour, Province of Alberta, Facts and Figures, 1954, Edmonton, p. 118 and p. 98; 1961 estimate, Department of Industries and Development, Alberta Bureau of Statistics, "Review of Business Conditions," January 17, 1962. Manufactured Products--1921-1951, Department of Industries and Labour, Province of Alberta, Facts and Figures, 1954, Edmonton, p. 165; 1961, Department of Industries and Development, Alberta Bureau of Statistics, "Review of Business Conditions," January 17, 1962, p. 47.

TABLE 3:10. WHOLESALE AND RETAIL SALES, PROVINCE OF ALBERTA, 1930-1961^a

Year	Wholesale Sales	Retail Sales
1930	\$ 64,091,200	\$ 176,537,100
1941	120,627,436	221,071,400
1951	490,000,000	818,365,000
1961	862,344,000	1,384,694,000

^aFigures for 1930 to 1951 from Department of Industries and Labour, Province of Alberta, Charts of Progress, 1953, Edmonton. Figures for 1961 from Department of Industries and Development, Province of Alberta; personal communication.

TABLE 3:11. PERCENTAGE DISTRIBUTION OF MALE LABOR FORCE BY OCCUPATIONAL GROUP, PROVINCE OF ALBERTA, 1921-1961^a

Occupational Group	1921 ^b	1931 ^b	1941 ^c	1951 ^c	1961 ^d
Agriculture	57.65%	56.47%	56.06%	38.4%	25.16%
Fishing and trapping	0.26	0.86	1.21)	0.8	0.83
Logging	0.19	0.19	0.39)		
Mining and quarrying	4.42	3.60	3.16	2.6	1.46
Manufacturing	4.85	5.63	7.16	8.9)	21.59
Construction	3.20	3.42	3.50	6.4)	
Transportation	5.51	6.19	6.61	8.5	6.93
Trade and Finance	7.66	7.33	7.47	5.2	5.51 (sales)
Service	7.42	6.99	7.23	6.3	4.10
Professional	2.62	2.53	2.81	4.5	7.33
Personal	3.27	3.50	3.36	2.8	3.84
Proprietary and Managerial				8.4	10.47
Clerical	3.58	2.84	3.01	4.0	5.38
Laborers	5.13	6.45	4.03	5.6	5.12
Not stated	0.12	0.03	0.15	0.5	2.28
Total	100.00	100.00	100.00	100.0	100.00

^aDominion Bureau of Statistics, 1941 Census of Canada, VII (Ottawa: The Queen's Printer), Table 2, pp. 10-11. Also 1951 Census of Canada, X, for 1951 figures, Table IV, p. 261; 1961 calculated from 1961 Census of Canada, Bulletin 3.1-3, 26-2-1963.

^bPercentages based on gainfully occupied males 10 years of age and over.

^cPercentages based on male labor force 14 years of age and over.

^dPercentages based on male labor force 15 years of age and over.

It seems reasonable that so much industrial and commercial progress would leave its mark on the occupational structure of the province. That this is so will be seen from Table 3:11 which shows the percentage distribution of employed males for each decade from 1921 to 1961. Some change in classifying occupations was made in 1951. The main change is the addition of a proprietary and managerial category.

As would be expected there has been a marked decrease in the percentage of males engaged in agriculture, from 58 per cent in 1921 to 38 per

cent in 1951. The proportion engaged in other primary industries such as fishing, logging, trapping, mining and quarrying have also shown a decided decrease. The proportions in manufacturing and construction have doubled over the same period, as has the percentage in the professions. The reduction in trade and finance is the result of the creation of the proprietary and managerial category. It seems clear that over the forty-year period being studied, the province has made considerable progress from emphasis on primary industries to a secondary- and tertiary-based economy. It is also evident that in 1961 the proportion of high status occupations is much greater than in 1921.

An indication of increased prosperity in the province may be seen from the increase in personal income shown in Table 3:12. The consumer

TABLE 3:12. PER CAPITA INCOME AND CONSUMER PRICE INDEX, 1921-1961^a

Year	Per Capita Income		Consumer Price Index Canada (1949 = 100)
	Canada	Alberta	
1921	b	b	80.9
1926	\$ 433	\$ 482	b
1931	356	275	67.7
1941	512	407	69.6
1951	1,120	1,255	113.7
1959	1,487	b	b
1961	b	1,582	129.2

^a1921-51, Department of Industries and Labour, Province of Alberta, Facts and Figures, 1954, Edmonton, pp. 204, and 221. 1961, Alberta Bureau of Statistics, personal communication.

^bNot stated.

price index is also given to illustrate the buying power of the consumer's dollar based on 1949 prices. There is no doubt that the residents of Alberta are more affluent in 1961 than they were forty years ago. The

influence of the depression and the post-war boom is evident.

The relationship between earnings and occupational categories is shown in Table 3:13 for 1941 and 1951. The rank order by income follows to a great extent the prestige rank ordering. This same relationship was found by Thomas for male workers in the United States for 1949.³ The increase in earnings over the decade of Alberta's greatest economic growth is another indication of the province's prosperity. It will be observed that the relative increases are greater for the occupations of lower incomes than for the higher ones.

TABLE 3:13. EARNINGS OF MALES 14 YEARS OF AGE AND OVER FOR SELECTED OCCUPATIONS, PROVINCE OF ALBERTA, 1941-1951^a

Occupation	1941 Average Earnings	1951 Median Earnings
Managerial	\$2,344	\$3,423
Professional	1,466	2,847
Clerical	1,236	2,124
Protective Service	1,495	1,908
Personal Service	731	1,690
Laborers	580	1,556
Agriculture	301	823

^a1951, Dominion Bureau of Statistics, 1951 Census of Canada, X, Table 73, pp. 72-73. 1941 calculated from Table 6, pp. 170-178, 1941 Census of Canada, VI.

The extremely low figure for agriculture is likely the result of the presence of young people or migrants. This is borne out by some 1946 figures on average family earnings. Alberta farm families had an average income of \$1,064, compared to \$1,735 for rural non-farm and \$2,009 for urban families. While still lowest, the discrepancy is not so great.

³Lawrence G. Thomas, The Occupational Structure and Education (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1956), p. 122.

The level of education of the population is related to the needs of a technological society and to economic prosperity. The information available on this subject is not consistent from decade to decade. The only comparable figures found are shown in Table 3:14 for years of schooling of family head for 1941 and 1951. There is an increase in the amount of education obtained during this one decade.

TABLE 3:14. YEARS OF SCHOOLING OF FAMILY HEAD BY PLACE OF RESIDENCE, PROVINCE OF ALBERTA, 1941-1951^a

Years of Schooling	Rural		Urban		Total	
	1941	1951	1941	1951	1941	1951
No schooling	5.2%	4.6%	1.4%	1.2%	3.6%	2.9%
1-4 years	14.1	11.7	5.1	4.4	10.3	8.0
5-8 years	53.3	49.8	37.8	33.0	46.8	41.2
9-12 years	24.2	30.0	44.5	49.0	32.7	39.7
13 plus	3.1	3.9	11.1	12.4	6.4	8.3
Total	99.9	100.0	99.9	100.0	99.8	100.1

^a Dominion Bureau of Statistics, 1941 Census of Canada, I, Table XIX, p. 454, and 1951 Census of Canada, X, Table XVI, p. 328.

The average number of years children were enrolled in school in 1921 was 9.3; in 1931, 10.2; and in 1941, 10.5.

Even with this admittedly inadequate information, the trend toward more education for all is evident.

The information presented in this section has attempted to show that since 1921 the Province of Alberta has undergone considerable economic growth. As a result there has been a change in the occupational structure such that there are now fewer people needed in the unskilled and semi-skilled groups. The corollary is that there are now available a greater number of skilled and white-collar occupations. At the same time the

median number of school years completed has increased to provide the skills now needed. All this provides evidence for the possibility of considerable secular mobility. In addition since earnings have in general increased, more people are now in a position to obtain the qualifications necessary for the higher status occupations.

IMMIGRATION

Table 3:15 shows the birthplace of residents of Alberta for each decade from 1921 to 1961. It will be seen that the percentage of people

TABLE 3:15. PERCENTAGE DISTRIBUTION OF POPULATION BY BIRTHPLACE, PROVINCE OF ALBERTA, 1921-1961^a

Birthplace	1921	1931	1941	1951	1961
British born	70.44%	73.08%	78.41%	82.43%	84.23%
Canada	53.54	58.21	67.55	74.45	78.32
British Isles	16.57	14.60	10.66	7.86	5.72
Commonwealth	.32	.26	.19	.12	.19
At sea	.01	.01	.01	--	--
Foreign born	29.56	26.92	21.59	17.57	15.78
United States	16.97	10.79	8.25	5.91	3.87
Europe	11.86	15.53	12.90	11.21	11.37
Asia	.68	.56	.39	.40	.46
South America	--	.02	.02	--	--
Other	.05	.02	.03	.05	.08

^a1921-51, Department of Industries and Labour, Province of Alberta, Facts and Figures, 1954, p. 341. 1961, calculated from 1961 Census of Canada, Bulletin 1.2-7, 17-1-1963.

who are foreign born has declined over the years. In 1961, 33 per cent of Alberta immigrants arrived after 1951, 35 per cent before 1921, and 32 per cent during the thirty years between 1921 and 1951.⁴

⁴Dominion Bureau of Statistics, 1961 Census of Canada, Bulletin 1.2-8, 20-2-1963.

Unfortunately these figures do not provide an adequate picture regarding the effects of immigrants on the labor market and hence on mobility since they include children and others not gainfully employed. In 1951, 25 per cent of the male population 35 years of age and over were immigrants.⁵ This indicates that the proportion of possible wage earners who are established in an occupation and who are foreign-born is somewhat greater than the proportion in the total population. A possible effect of this proportion of foreign-born would be to increase the upward mobility potential of the non-immigrant population. That this may not be true in Alberta may be seen from Table 3:16. Immigrants in 1951 intending to take

TABLE 3:16. IMMIGRATION TO THE PROVINCE OF ALBERTA SHOWING INTENDED OCCUPATIONS, 1951^a

Occupational Group	Number
Farming	2,629
Unskilled and semi-skilled	900
Skilled	1,294
Clerical	197
Professional	246
Trading	126
Female Domestics	402
Dependent wives	2,230
Dependent children	3,830
Others	384
Total	12,238

^aDepartment of Industries and Labour, Province of Alberta, Facts and Figures, 1954, p. 281.

occupations in the white-collar categories represent approximately ten per cent of the total workers.

⁵Dominion Bureau of Statistics, 1951 Census of Canada, IV, Table 11, p. 41. Calculated.

While this evidence is far from conclusive, it does suggest that the number of qualified immigrants entering the province comes close to filling the increased need for higher status personnel, thus reducing the opportunity for upward mobility on the part of the non-immigrant population.

CHANGING ASPECTS OF THE FAMILY

The average number of children in a family in Alberta has decreased since 1931 regardless of whether the family lives in a rural or an urban community. Table 3:17 gives the figures.

TABLE 3:17. AVERAGE NUMBER OF CHILDREN PER FAMILY BY PLACE OF RESIDENCE, PROVINCE OF ALBERTA, 1931-1951^a

Year	Rural	Urban	Alberta
1931	2.60	2.08	2.31
1941	2.37	1.82	2.06
1951	2.0	1.4	1.7

^aDominion Bureau of Statistics, 1941 Census of Canada, I, Table I, p. 433, and 1951 Census of Canada, X, Table 81.

While both rural and urban families had fewer children in 1951 than earlier, the rural family continues to be larger. Many of these children later move to cities to begin an urban occupational career near the bottom of the ladder and thus making it possible for urban workers to move up the scale. That differential fertility of occupational classes makes such movement possible may be seen from Table 3:18 which shows the mean standardized fertility rates for eight socio-economic classes devised by Charles from census data on education and income.

Since the relationship between class and fertility is direct and since the disparity between the highest and the lowest is considerable, it would follow that positions cannot all be filled from within the higher classes and hence must be filled by men lower on the class scale or by immigrants. While comparable information for later years is not available,

TABLE 3:18. FERTILITY RATE BY SOCIO-ECONOMIC CLASS OF HOUSEHOLD HEAD, CANADA, 1941^a

Class	Socio-economic Class	Mean Standardized Fertility Rate
1	Proprietary, managerial, professional occupations	2.13
2	Professional occupations	2.20
3	Small owners, clerical occupations	2.48
4	Foremen and inspectors	2.74
5	Skilled and semi-skilled occupations	2.99
6	Semi-skilled and personal service occupations	3.26
7	Construction occupations	3.59
8	Unskilled occupations	4.16
	Farmers	4.29

^aEnid Charles, The Changing Size of the Family in Canada, Census Monograph No. 1, Dominion Bureau of Statistics (Ottawa: The Queen's Printer, 1948).

it is more than likely that fertility rates have changed since 1941. However, since children born in 1941 will be 20 years of age in 1961 and, in the case of those planning to enter higher status occupations, still at university or very recently graduated, the increased birth rate after the war does not influence the findings of this study relative to mobility.

The foregoing review of changes in factors which could influence social mobility has suggested that in Alberta, population growth, along with economic development, and urbanization have produced a greater proportion of high status occupations and provided an income level which

makes it possible for a greater range of people to aspire to a university education in order to prepare for them if motivated to do so.

CHAPTER IV

THE GROWTH OF THE UNIVERSITY OF ALBERTA SINCE 1921

One of the factors which may influence results involves the educational facilities offered in the province at the various time periods which are being studied. It is hoped the following brief summary will facilitate interpretation of results.

The University of Alberta officially began classes in 1908, but it was not until 1915 that the first university building, the Arts Building, was completed. The building of the residences had taken place between 1911 and 1914.¹

At the time this study begins in 1923-24, university enrollment had increased from 45 students to 1,341. Courses of instruction available in 1923 are listed below by faculties, schools, and departments in the order of their inclusion:

Faculty of Arts and Science	1908
Faculty of Law	1912
Faculty of Agriculture	1915
School of Accountancy	1916
School of Pharmacy	1917
School of Dentistry	1920
Faculty of Applied Science	1921
Faculty of Medicine	1923
School of Nursing	1924

By 1931-32, the next period of particular interest, registration had increased to 2,038. The Schools of Household Economics and Education had been added in 1928.

¹Information in this chapter is from John Macdonald, The History of The University of Alberta, 1908-1958 (Toronto: W. J. Gage Limited, 1958), and from Reports of the Governors of the University of Alberta.

By 1942-43, the School of Education had been raised to the status of a faculty, and registration had increased to 2,113. The years intervening between 1932 and 1943 were marked by the Depression, hence, rather than being a period of growth, it was one of consolidation.

The Second World War produced problems which the university was called upon to meet. Voluntary enlistment was steadily depleting the student body. Macdonald points out that since students in the professional schools or following a scientific pattern were expected to continue their studies, some students who in normal times would have registered in other programs selected one of the protected courses, sometimes under parental pressure.²

Dentistry became a faculty in 1944. It was also in this year that the urgent need for doctors and dentists created by the war caused the university to develop accelerated programs which made use of the long summer vacation. These continued until after 1950.

The discovery of oil in the Leduc region in 1947 placed new demands on the Departments of Geology and Mining Engineering. In addition, the refineries and other industries which sprang up in Edmonton increased the claims of industry, particularly on the Department of Chemistry.

Until 1928, the training of all teachers had been under the jurisdiction of the Provincial Department of Education at the normal schools. At that time, however, a School of Education was set up on campus to provide professional training for students who had a degree in arts or science. This arrangement continued until 1939 when the school was given

²Macdonald, op. cit., p. 55.

the status of a college. In 1942, the college was raised to the status of a faculty and in 1945-46 it undertook the training of all teachers in the province, with the result that the normal schools were closed. In 1946-47 a two year teacher-training course was begun in Calgary, and in 1948-49 Calgary was also authorized to provide the first three years of the degree of Bachelor of Education in industrial arts. Finally in 1951, a first year arts and science program was started in Calgary. Since that time the program has been expanded to four years and new areas of specialty have been added.

It will be seen that the decade preceding 1950-51 was one of rapid expansion, which was reflected in the enrollment figure of 5,955.

A few additional organizational changes occurred during the decade from 1950 to 1960. The School of Physiotherapy was created in 1954, and in 1955 the School of Pharmacy became a faculty and a School of Physical Education was added. By 1960-61 enrollment had increased to 12,783.

Three junior colleges are affiliated with the university. In 1913 Mount Royal College in Calgary, which was operated under the auspices of the United Church of Canada, became affiliated with the University of Alberta. It provided instruction at the first-year level. During the 1950's, Camrose Junior College and Lethbridge Junior College also became affiliated with the University of Alberta.

There are also four unaffiliated colleges in the province. These are: Canadian Union College, Collège Saint Jean,³ Concordia College, and St. Joseph's Seminary. In addition the Southern Alberta School of

³Collège Saint Jean became affiliated with the University of Alberta in 1962.

Technology, which has been in operation since 1916, offers some post-secondary technical courses. Total enrollment in technical schools in 1962-63, for example, was 1,154.³

³Dominion Bureau of Statistics, Canada Catalogue No. 81-201, Table 14, p. 33.

CHAPTER V

HYPOTHESES OF THE STUDY

The rationale for the hypotheses derives from the review of the literature and from the survey of factors in Alberta which could have a modifying effect. Since predictions regarding findings were included in the review of the literature, no explanation for the hypotheses tested will be given here.

The basic hypothesis of the study is that social groups, as defined by sex, marital status, religion, birthplace of father, place of residence, and socio-economic status, will be differentially motivated to attend university, will have differential opportunity for doing so, and hence will have differential access to high-status occupations.

GENERAL HYPOTHESIS

1. The proportion of young people who attend university in Alberta will have increased since 1921 as a result of increasing social mobility within certain segments of the population.

HYPOTHESES RELATED TO INDEPENDENT VARIABLES

General Social Characteristics

Sex

2. Males will outnumber females at the university for all time periods, but the disparity will be greater for 1921 than for 1961.

Age

3. There will be a trend over time toward greater representation of the older age categories.
4. The difference between the proportions of male and female students will increase with the age of the students.

Marital Status

5. There will be an increase in the proportion of married students over time.
6. A higher proportion of males than females will be married.

Religion

7. Proportional representation of religious groups at university will be in the following rank order: Jews, Protestants, Catholics.
8. Differential university attendance of Protestants and Catholics will decrease over time.

Birthplace of Father

9. Students with foreign-born fathers will be represented at university at or near their proportion in the provincial population during the early periods, and will be slightly over-represented by 1960-61.

Place of Residence

10. Rural areas will be less well represented at university for all time periods, but the trend will be in the direction of equalization.
11. The largest urban areas will be less well represented at university than the more moderate size cities.
12. The disparity in representativeness of rural and urban areas will be diminished when the influence of urbanization is controlled.

Sex

13. Females from small communities and rural areas will be better represented at university than males.

Socio-economic Status

14. Representativeness of students classified by socio-economic status will be directly and positively related to the socio-economic status hierarchy.
15. Over time the representativeness of the lower socio-economic groups will increase.

Sex

16. Females will be better represented at university than males from the lower socio-economic levels.

Age

17. There will be a higher proportion of older students from the lower socio-economic levels than from the higher.

Marital Status

18. A larger proportion of married students will come from lower socio-economic levels than from the higher levels.

Religion

19. In the lower socio-economic levels Catholics will have a higher proportion at university than Protestants.

Place of Residence

20. Students whose fathers are farmers will be less well represented than Class 5 in general, or higher occupational class categories.

The foregoing are the specific hypotheses to be tested. In addition the following areas, for which we have no basis for making hypotheses, will be explored:

1. The relationship between religious affiliation and sex.
2. The relationship between religious affiliation and place of residence.
3. The relationship between religious affiliation and farm background, and sex and farm background.

CHAPTER VI

THE SAMPLES AND PROCEDURE

INTRODUCTION

The plan of this study was to collect information from the records of the Registrar's Office at the University of Alberta, Edmonton, for one year in each decade from 1920 to 1960. Comparisons were then made on pertinent variables between the number of students belonging to a given category and the number of people in the Province of Alberta belonging to the same category. This latter information is available in the census publications of the Dominion Bureau of Statistics, Canada. The approach reveals the extent to which the university population corresponds to the population of the province having the selected characteristics. In other words, it answers the question: How representative is the university student population of the provincial population as a whole? Since comparisons were made for five time periods, trends showing who is going to university in this province should emerge.

In addition, comparisons of the sample populations on the various variables were made between years and within years. This was done in the hope that it would isolate any sociological variables which are particularly pertinent in the decision of the student to attend university.

SELECTION OF SAMPLE YEARS AND INFORMATION AVAILABLE

Five university years between 1920 and 1962 were selected for analysis, one in each decade. The years chosen correspond to the year for

which census information is available if the information required was collected by the Office of the Registrar at that time. If the required information was not available in years ending in "1", the next closest year for which most of the desired information is available was used. The years decided upon were: 1923-24, 1931-32, 1942-43, 1950-51, and 1960-61.

It was found that only scanty information was collected during the early years of the university's existence. For example, 1923-24 is the first year for which information regarding religion was collected, and even at that time the sex of the student was not noted on the registration form. This latter information could be inferred from the Christian name in all but one ambiguous case in the sample.

The information desired and that available for each of the sample years is shown in Table 6:1.

TABLE 6:1. INFORMATION AVAILABLE FROM THE RECORDS OF THE REGISTRAR FOR EACH SAMPLE YEAR

Independent Variable	1923-24	1931-32	1942-43	1950-51	1960-61
Sex	X	X	X	X	X
Age	X	X	X	X	X
Marital Status	-	-	-	X	X
Religion	X	X	X	X	X
Birthplace of Father	-	-	0	X	X
Place of Residence	X	X	X	X	X
Occupation of Father	X ^a	X	X	X	X

^aFrom Report of the Board of Governors, 1923-24, University of Alberta, based on total student population.

It will be observed that the desired information was not available in each of the sample years. In 1923-24, information on occupation of father was reported in the Report of the Board of Governors for the entire

student population, but was not available on registration records. This information is used where possible, but since no cross-tabulations are available its use is somewhat limited. The only information which was consistently available is sex, age, place of residence, and religion.

SAMPLING METHODS

A simple random sample of full-time, undergraduate students was selected. This was accomplished by determining in advance the number of students registered in each sample year and making up a list of 450 numbers for each from a table of random numbers. The numbers were arranged in numerical order and all duplications replaced. It was then possible, by counting through the Registrar's records, which are arranged in alphabetical order, to select the cases which fell in the sample.

A sample of 450 was decided upon in order to make cross-tabulations possible. Since less information was available in 1923-24 and the student population comparatively small, the sample size was reduced to 400. Sample sizes ranged from 42 per cent of the total in 1923-24 to six per cent in 1960-61.

CENSUS INFORMATION

Information contained in Canadian census publications for 1921, 1931, 1941 and 1951 are used to determine the proportion of residents of Alberta who fall in the various categories. Complete information is not yet available for 1961, but some tables were obtained from advance bulletins of the Dominion Bureau of Statistics.

The presentation of census information was found to be inconsistent

from year to year. Desired cross-tabulations were not always available, and also the categories used vary in definition over time. The analysis was made as thorough as possible within these limitations. Specific difficulties encountered in this respect will be commented upon in the analysis.

When census information was available according to age, university age was taken as 15-34 years and proportions calculated on that basis. In the case of birthplace of father and occupation of father, concern was with males who could have children attending university. For these two variables all ages over 35 years were used.

CATEGORIES USED FOR INDEPENDENT VARIABLES

Age

Categories for ages were based on those used in census publications: Under 20, 20-24, 25-34, and 35 and over.

Marital Status

Only two categories for marital status were used: single and other.

Religion

Religion was coded according to five categories: Protestant, Catholic, Fundamentalist, Jewish, and other. The distinction between Protestant and Fundamentalist was made on the basis of belief in the inerrancy of the Scriptures, and on the advocacy of ascetic morality. By this definition religions such as Seventh Day Adventist, Pentecostal, Mennonite, Jehovah Witness were classified as Fundamentalist rather than Protestant. The Catholic category includes Eastern Catholic faiths as well as Roman.

Birthplace of Father

This variable was coded according to the following categories: Canada, United States, Britain and Commonwealth, Scandinavia, Western Europe, and Southern and Eastern Europe.

Place of Residence

Place of residence was analyzed in two ways. The first method is the usual one of classifying communities according to size, any under 1,000 population being considered rural.¹ Unfortunately, prior to 1951 the Dominion Bureau of Statistics defined rural as any community regardless of size which was not incorporated. This change in definition imposes a limitation on comparisons made over time.

The second method employed for analyzing place of residence was a time-distance index.² This index makes it possible to compare communities on the basis of the period of time required by usual mode of transportation to travel from the community of residence to larger communities. The following seven community sizes were used:

Under 250
250 to 999
1,000 to 2,499
2,500 to 4,999
5,000 to 9,999
10,000 to 24,999
25,000 and over.

The time required to travel to the nearest community of each size category was calculated and a mean obtained. This mean is the time-distance index.

¹Cecil L. French, "Some Social and Economic Correlates of Isolation for the Counties of Missouri, Master's thesis, Department of Sociology-Anthropology, Washington University, St. Louis, Missouri, 1953.

²Based on Dominion Bureau of Statistics definition. See p. 48 for details.

The T-D index provides a measure of urban influence and urban accessibility. A community of over 25,000 would have a T-D index of 0. An index of .5 means that a community is on the average within a half hour's travelling time to communities of each of the size categories.

The indices were coded into seven groups from a low of .5 to a high of over 3, and later combined into larger categories.

Maps were obtained from the Department of Highways for each decade involved in the study in order that distances could be calculated using the highways available at the time. Estimates of average speeds, taking into consideration both the vehicles in use and road conditions, were also obtained from the Department of Highways. Table 6:2 shows the average speeds used for each decade.

TABLE 6:2. AVERAGE SPEEDS OF VEHICLES BY TYPE OF ROAD, ALBERTA, 1920-1960

Type of Road	1920	1930	1940	1950-60
Dual Highway	-	-	-	55
First-class highway (hard surface)	25	35	45	48
Second-class highway (gravel or equivalent)	23	32	42	45
Third-class road (earth graded)	21	29	38	40
Trail (by horse)	3	-	-	-

For some community names it was impossible to determine the population. A check was made to determine if it had a hotel. If not, it was regarded as being a post office only and a T-D index was calculated starting with the nearest place under 250. If it did have a hotel, it was considered to be a community of under 250.

A similar difficulty was encountered with farm homes since the

nearest town or village is given as an address and there is no way of knowing how far the farm is located from the community. In these cases the T-D index was calculated from the named community and no allowance made for additional isolation.

The most serious limitation is that the T-D index, or placement in a rural-urban dichotomy, was calculated on present place of residence. It is possible that some students had spent most of their lives in a rural community but had only recently moved to the city, or the reverse. In view of the rural to urban movement noted in Chapter III this possibility is a very real one. It can only be hoped that the number of such cases at university is sufficiently small so as not to appreciably distort the results.

Occupation of Father

Occupation of father was classified into seven classes according to the Blishen occupational class scale which is based on 1951 Canadian census information. Occupations as reported in census publications were also classified according to this scale for Albertan males of ages 34 to 70 years and over for each census year since 1921.

Emphasis was placed on the Blishen occupational class scale rather than job classifications for two reasons. The first is that it is based on education and income, two variables which it is believed are highly pertinent in influencing who goes to university. The second reason is illustrated in Table 6:3 which shows the distribution of the occupational categories according to the Blishen occupational class scale for fathers of students included in the sample for 1961. It will be observed that

professionals are confined to the two highest classes, managers and officials to the second and third, and unskilled workers in the three lowest classes. Other categories show more variation, Salesmen, for example, range from Class 2 to Class 7. To illustrate this variation, the possible sales positions which fall in each class are listed: Class 2, stockbroker; Class 3, commercial traveller; Class 5, sales clerks; and Class 7, peddlers. To group such disparate positions in one category on the grounds that the people involved will have similar values in common because they all sell things seems unreasonable. Of course, the Blishen occupational class scale also suffers from the levelling process involved in averages, but possibly it has at least eliminated the grosser kind of error involved in occupational categories.

TABLE 6:3. PERCENTAGE DISTRIBUTION OF OCCUPATIONAL CATEGORIES BY BLISHEN OCCUPATIONAL CLASS SCALE FOR STUDENT SAMPLE, UNIVERSITY OF ALBERTA, 1960-61

Class	Profes- sional	Semi- Prof.	Prop.	Manager Official	Sales- men	Lower W-C & Sk.	Semi- Sk.	Unsk.	Farm
1	64.9%								
2	35.1%	92.0%	71.8%	87.1%	12.5%	3.8%			
3		4.0	17.9	12.9	75.0	31.3			
4		4.0	7.7			13.8	3.4		
5					6.3	40.0	27.6	10.0	100.0
6			2.6			7.5	65.5	20.0	
7					6.3	3.8	3.4	70.0	
Total	100.0	100.0	100.0	100.0	100.1	100.2	99.9	100.0	100.0

As mentioned, the Blishen occupational class scale is based on 1951 census figures. Its relevance to earlier or later decades can, of course, be questioned. There is little doubt that the proportions of certain job categories relative to the total occupations will have changed over the

years, but this change has been controlled for by using the census figures applicable to each decade. Beyond this such changes in proportion are not of concern here. The important question here is, would a given occupation which has been assigned a class level by 1951 standards fall at the same class level at an earlier period in history? The assumption being made is that it would. It is known that educational standards for certain occupations have greatly increased over the 40 year period being considered. It is also known that some high income occupations now receive a lower proportion of the national income, while some low income occupations receive a higher proportion of the national income relative to 1920. In spite of these changes it is believed that the relative position in the total occupational continuum would remain essentially unchanged in most cases. Rogoff made a similar assumption in connection with her occupational categories in comparing the two periods 1905-12 and 1938-41.⁴

STATISTICAL TREATMENT

After coding, the data were punched on I.B.M. cards for processing by the Computing Center at the University of Alberta. Percentages were calculated for all tabulations. A chi square test of correspondence between frequency distributions of university students and provincial population percentages was also calculated by the Computing Center. This test indicates whether or not the frequency distributions for students are significantly different from the provincial population percentages.

An index of representativeness was also calculated. This index is

⁴Natalie Rogoff, Recent Trends in Occupational Mobility (Glencoe, Illinois: The Free Press, 1953), p. 41.

the ratio of the percentage of a certain category at university to the percentage of that category in the provincial population.

Chi square tests were calculated to test for relationships between variables to determine their relative dependence or independence in cases where provincial population figures are not available and where there was no reason to believe that the categories would be unequally represented in the population.

CHAPTER VII

ANALYSIS OF RESULTS--GENERAL SOCIAL CHARACTERISTICS

The present chapter is concerned with an analysis of findings related to the general social characteristics associated with university attendance.

The general hypothesis stated that the proportion of young people who attend university in Alberta will have increased since 1921. Table 7:1, showing the percentage of the population 15-24 years of age who go to university in Canada and Alberta, indicates an increase from one per cent in 1921 to four per cent in 1961. The figures for Canada are slightly larger, but it should be kept in mind that the figures for Alberta do not include junior colleges. For the sake of comparison, if junior colleges in Alberta were included in the 1961 figures the total number of full-time students would go up to 8,499, which is 4.5 per cent of the age category used. Hence, Alberta is exceeding the national figures by a slight margin.

TABLE 7:1. PER CENT OF POPULATION 15-24 YEARS OF AGE ENROLLED AS FULL-TIME STUDENTS AT UNIVERSITY, CANADA AND ALBERTA, 1921-1961

Year	Canada			Alberta		
	University Students ^a	Population 15-24 yrs.	Per Cent	University Students ^b	Population 15-24 yrs.	Per Cent
1921	23,139	1,513,029	1.5	1,053	93,403	1.1
1931	32,926	1,950,776	1.7	1,532	139,249	1.1
1941	36,319	2,152,461	1.7	1,800	151,972	1.2
1951	68,306	2,146,613	3.2	3,565	149,468	2.4
1961	114,000	2,616,205	4.4	7,453	188,158	4.0

^aFigures include junior colleges but not post-secondary technical schools.

^bFigures include University of Alberta only.

It will be seen from Table 7:1 that the big jump in university attendance follows 1941. The relationship to economic prosperity, increased technology and urbanization seems obvious. However, some of the increase in Alberta can be accounted for by the fact that in 1945 the university undertook the training of all teachers, thus eliminating normal schools. This had the effect of automatically increasing university enrollment. However, the numbers involved are not so great as to nullify what has been said. For example, enrollment at normal schools in 1920-21 was 411; 1930-31, 965; and 1940-41, 520.¹ Not all of these students are high school graduates (the number who are could not be ascertained); hence, not all would be included as students of higher education. Another factor which served to increase enrollment after 1941 was the presence of veterans. In 1950-51, they accounted for about 22 per cent of full-time undergraduate students.²

Sex

Table 7:2 shows the percentage of students in each sample year according to sex. In the 1923-24 sample, information regarding sex was not directly given and in one instance it was impossible to infer sex from the first name; hence, the "not known" category.

It will be observed that the distributions are relatively constant, but a trend toward greater numbers of female students seems indicated, although the trend is not consistent over the years. There was an

¹George Mann, "Alberta Normal Schools: A Descriptive Study of Their Development, 1905 to 1945" (unpublished Master's thesis, University of Alberta, Edmonton, 1961).

²University of Alberta, Report of the Governors, 1950-51, Edmonton.

TABLE 7:2. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS AND OF PROVINCIAL POPULATION 15-24 YEARS OF AGE BY SEX, SHOWING INDEX OF REPRESENTATIVENESS, ALBERTA, 1921-1961

Year	Percentage Distribution of University Sample			Percentage Distribution of Provincial Population			Index of Representativeness ^a	
	Male	Female	Total	Male	Female	Total	Male	Female
1921	69.8%	30.0%	99.8 ^b %	58.8%	41.2%	100.0%	1.19	.73
1931	64.7	35.3	100.0	52.0	48.0	100.0	1.24	.74
1941	68.7	31.3	100.0	50.6	49.4	100.0	1.36	.63
1951	65.1	34.9	100.0	51.0	49.0	100.0	1.28	.71
1961	61.6	38.4	100.0	50.3	49.7	100.0	1.22	.77

^aThe percentage in the university sample divided by the percentage in the provincial population of a given category.

^bSex unknown for 0.2 per cent.

increase of male enrollment during the war, but the proportion of males at university declines again from then on. The ratio of the percentage at university to the population 15-24 years of age clearly shows this trend.

The hypothesis regarding sex stated that males would be over-represented at university but that their proportion relative to females would be declining. The evidence presented in Table 7:2 supports the hypothesis although the amount involved is small. However, it should be noted that the proportion of females at university in Alberta far exceeds the national average of 23 per cent.³ In fact, it is approaching the 40 per cent figure for the United States.⁴

The percentages of male and female students actually enrolled at university are given in Table 7:3. It will be seen that the correspondence between the percentages in the sample and those provided by university figures is good. Tests to determine the significance of the correspondence on the sex variable between the samples and actual enrollment fall at the 50 per cent or lower level for each year. This comparison, providing as it does a check on the representativeness of the samples, gives substance to the analysis of results.

Age

Table 7:4 shows the index of representativeness for each sample

³E. F. Sheffield, "University Development: The Past Five Years and the Next Ten," in Davidson Dunton and Dorothy Patterson, Canada's Universities in a New Age, Proceedings of the Conference held by the National Conference of Canadian Universities and Colleges at Ottawa, November 13-15, 1961 (Ottawa: Le Droit, 1962), p. 13.

⁴Byron S. Hollinshead, Who Should Go To College (New York: Columbia University Press, 1952), p. 164.

year by age. It will be observed that for the 15-19 year old age category, there has been a steady increase in the index over the years, with the exception of 1941. Since this was a war year, the first possibility that

TABLE 7:3. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE STUDENTS BY SEX, ALBERTA, 1921-1961^a

Year	Percentage Distribution of Actual Enrollment		Number
	Male	Female	
1921	67.7%	32.3%	1053 ^b
1931	66.1	33.9	1389
1941	71.8	28.2	1707
1951	65.1	34.9	3313
1961	65.5	34.5	7453 ^c

^aPercentages are based on enrollment figures given in Reports of the Governors of the University of Alberta for the years stated.

^bIncludes graduate students.

^cIncludes all full-time students.

suggests itself is that the dip in attendance is the result of the enlistment of young men in the Services. However, that this explanation is not the correct one will be shown presently. By 1961 over half of all students are under 20 years of age as compared to a little over one-third in 1921. It is interesting that in 1931 during the height of the depression, there is apparently no change in the upward climb of the index.

The trend for the indices of representativeness for the 20-24 year old age category is almost the reverse of that for the 15-19 year old group. Up to and including 1951, this group represented the largest proportion at university. Contrary to the 15-19 year old category, the proportion of those students 20-24 years of age increased in 1941. It is possible that this is the result of special courses offered at that time

in medicine and dentistry which would be selective of the older age category because of the need for some previous university training.

The trend for the 25 years and over age category is downward if allowance is made for an increase in 1941 for special courses, and an increase in 1951 because of rehabilitation students. Although the percentage of rehabilitation students is not great by 1951 (15 per cent of the sample) it is still sufficient to make its influence felt in the older age category.

The hypothesis regarding age stated that the proportion of students in the older age category would increase over time, The evidence provided here does not support this hypothesis.

A breakdown by sex and age shown in Tables 7:5 and 7:6 indicates where the increase in enrollment has been concentrated.

In the 15-19 year old age group for males, the index of representativeness shows a steady decline to 1951 but an upswing by 1961. The trend for females is up except for 1941 when it dips to its lowest level. This would account for the low level in 1941 discussed in the last section. The overall increase in students 15-19 years of age would seem to be largely the result of an increase in the enrollment of females of that age.

The indices for males 20-24 years of age show no clear trend. The highest representation was in 1921, and the lowest in 1931 with a gradual increase since that time. For all years it is the age group having the highest proportion of males.

The proportion of females 20-24 years of age has definitely declined. The index of representativeness in 1921 was 1.33 but in 1961 it is only 0.83. The high point in 1941 corresponds to the low point of females 15-19

TABLE 7:4. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS AND OF PROVINCIAL POPULATION BY AGE, SHOWING INDEX OF REPRESENTATIVENESS, ALBERTA, 1921-1961

Year	Percentage Distribution of University Sample					Percentage Distribution of Provincial Population ^b					Index of Representativeness ^c			
	Age Categories					Age Categories					Age Categories			
	15-19	20-24	25-34 ^a	Total	No.	15-19	20-24	25-34	Total	No.	15-19	20-24	25-34	
1921	34.9%	47.6%	17.6%	100.1%	377	25.1%	23.0%	51.9%	100.0%	194,406	1.39	2.07	0.34	
1931	42.0	46.2	11.8	100.0	450	29.9	26.3	43.9	100.1	248,019	1.41	1.76	0.27	
1941	33.3	51.1	15.6	100.0	436	28.5	26.8	44.7	100.0	274,510	1.17	1.91	0.35	
1951	40.7	42.4	16.9	100.0	450	24.8	25.3	49.9	100.0	298,134	1.64	1.68	0.34	
1961	50.7	39.4	10.0	100.1	450	26.0	23.5	50.6	100.1	380,729	1.95	1.68	0.20	

^aUniversity percentages include all students 25 years and over.

^bProvincial percentages are based on the total population 15-34 years of age.

^cThe percentage in the university sample divided by the percentage in the provincial population of a given category.

TABLE 7:5. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS AND OF PROVINCIAL POPULATION 15-34 YEARS OF AGE BY AGE AND SEX, ALBERTA, 1921-1961

Year	Percentage Distribution of University Sample						Percentage Distribution of Provincial Population									
	15-19		20-24		25-34 ^a		15-19		20-24		25-34					
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female				
	Total	No.	Total	No.	Total	No.	Total	No.	Total	No.	Total	No.				
1921 ^b	24.5%	10.4%	33.2%	14.4%	13.9%	3.7%	100.1%	376	13.1%	12.0%	12.2%	10.8%	29.5%	22.4%	100.0%	194,406
1931	24.4	17.6	30.2	16.0	10.0	1.8	100.0	450	15.2	14.7	14.0	12.3	24.8	19.1	100.1	248,019
1941	23.4	9.9	32.1	19.0	13.3	2.3	100.0	436	14.3	14.2	13.7	13.1	23.3	21.4	100.0	274,510
1951	19.8	20.9	30.2	12.2	15.1	1.8	100.0	450	12.7	12.1	12.9	12.4	24.9	25.0	100.0	298,134
1961	25.1	25.6	29.6	9.8	6.9	3.1	100.1	450	13.2	12.8	11.7	11.8	26.4	24.2	100.1	380,729

^aUniversity percentages include all students 25 years and over.

^bSignificance of chi square test of correspondence: 1921 - non-significant
1931 - .02 level
1941 - .01 level
1951 - .01 level
1961 - .001 level.

years of age in that year.

The proportion of males in the oldest age category appears to have gone down. The comments made in the previous section relative to the increase in 1941 and 1951 would pertain here.

The proportion of females in the oldest age category has been low for all sample years.

TABLE 7:6. INDICES OF REPRESENTATIVENESS, FOR FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS BY AGE AND SEX, ALBERTA, 1921-1961

Year	Index of Representativeness ^a					
	15-19 yrs.		20-24 yrs.		25-34 yrs.	
	Male	Female	Male	Female	Male	Female
1921	1.87	0.87	2.72	1.33	0.47	0.17
1931	1.61	1.20	2.16	1.30	0.40	0.09
1941	1.64	0.70	2.34	1.45	0.57	0.11
1951	1.56	1.73	2.34	0.98	0.61	0.07
1961	1.90	2.00	2.53	0.83	0.26	0.13

^aThe index of representativeness is the percentage in the university sample divided by the percentage in the provincial population of a given category.

To summarize, the evidence shows that the university population is getting younger, over 50 per cent of the students being under 20, with the sexes about equally divided in this age category by 1961. Among students over 20, males clearly predominate and there is little or no suggestion of a trend toward greater representativeness for females in this age category. This supports the hypothesis that males may work for a few years after high school before going to university. However, another possibility is that males more often select patterns which require a longer period at university. Had the index for the 25-34 year old age category also shown an increase the hypothesis could be considered confirmed and

this alternative possibility would not present a problem.

Marital Status

It will be seen from Table 7:7 that, although by far the greatest proportion of the student body is single, an appreciable percentage is married, widowed, or divorced.

The hypothesis regarding marital status stated that there would be an increase in the proportion of married students over time. At first glance the opposite situation seems to prevail. In 1951, 11.3 per cent of students were in the "other" category compared to 10.5 per cent in 1961. However, since it is known that 6.4 per cent of the males in the "other" category in 1951 are rehabilitation students, leaving only 4.9 per cent of regular students in that category, a trend toward a larger proportion of married, widowed or divorced students is suggested. As figures are available for only two decades, it is not possible to say too much in this connection.

TABLE 7:7. PERCENTAGE DISTRIBUTION OF UNIVERSITY STUDENTS BY MARITAL STATUS AND SEX, ALBERTA, 1951-1961

Year	Single		Other		Total Percentage	Number
	Male	Female	Male	Female		
1951 ^a	55.1%	33.6%	10.0%	1.3%	100.0%	450
1961	53.8%	35.8%	7.8%	2.7%	100.1%	450

^a Significance of chi square test of relationship: 1951 - .001 level
1961 - non-significant.

The relationship between sex and marital status is significant for

1951, many more males falling in the "other" category relative to their numbers than in the case for females. This is largely the result of the presence of rehabilitation students, many of whom were married and most of whom were male. In 1960-61 marital status and sex vary independently.

The hypothesis stated that a higher proportion of males than females would be married. Since there is a sex differential only in 1951 when circumstances were unusual, this hypothesis has not been supported.

Religion

The hypothesis regarding religion stated that proportional representation of religious groups at university would be in the rank order of Jews, Protestants, and Catholics. Examination of Table 7:8 shows that for all years this is the case. No prediction was made regarding the Fundamentalist religions, but it will be noted that while they ranked third in 1921, by 1961 they are slightly better represented than other Protestants and rank second.

A second hypothesis was that differential university attendance of Protestants and Catholics would decrease over time. The index of representativeness very clearly shows this to be the case. Protestants are over-represented in all time periods, with the reverse condition obtaining for Catholics, but by 1961 the difference between the two is no longer statistically significant.

The index for the Jewish religion shows a radical decline. It will be noted that Jews have maintained a constant proportion in the provincial population, 0.5 per cent, over the years. The decline in index, therefore, suggests that Jews have been maximally represented at university, and the

TABLE 7:8. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS AND OF PROVINCIAL POPULATION BY RELIGION, ALBERTA, 1921-1961

Year	Percentage Distribution of University Sample				Percentage Distribution of Provincial Population ^a			
	Religious Categories				Religious Categories			
	Prot.	Cath.	Fund.	Other	Total Number	Prot.	Cath.	Fund. Jewish Other Total Number
1921 ^b	88.3%	7.1%	1.1%	2.5%	1.0%	100.0%	394	71.4% 22.7% 2.5% 0.5% 2.8% 99.9% 587,299
1931	85.0	8.4	0.9	4.3	1.4	100.0	441	67.7 26.7 2.6 0.5 2.5 100.0 730,582
1941	80.5	13.2	1.3	3.8	1.1	99.9	445	64.8 28.4 3.6 0.5 2.5 100.0 794,711
1951	71.4	21.4	3.2	2.9	1.1	100.0	443	64.2 28.1 3.2 0.5 4.0 100.0 939,501
1961	66.5	27.5	3.7	0.9	1.4	100.0	439	63.1 28.6 3.4 0.5 4.3 99.9 1,331,944

^aProvincial population percentages are based on all ages for all years.

^bSignificance of chi square test of correspondence: 1921 - .001 level
1931 - .001 level
1941 - .001 level
1951 - .01 level
1961 - non-significant.

TABLE 7:9. INDICES OF REPRESENTATIVENESS FOR FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS, BY RELIGION, ALBERTA, 1921-1961

Year	Index of Representativeness ^a				
	Protestant	Catholic	Fundamentalist	Jewish	Other
1921	1.24	0.31	0.44	5.00	0.36
1931	1.26	0.31	0.35	8.60	0.56
1941	1.24	0.46	0.36	7.60	0.44
1951	1.11	0.76	1.00	5.80	0.28
1961	1.05	0.96	1.09	1.80	0.33

^aThe index of representativeness is the percentage in the university sample divided by the percentage in the provincial population of a given category.

decline is the result of the percentage method used, which would automatically decrease the proportion of Jews at university as other religious groups increase theirs. In spite of this decline, Jews remain the most over-represented religious group in the province.

Although Protestants have not been so well represented as Jews, their percentage in the student population has also decreased and likely for a similar reason. They represent the largest single category; hence, any gain on the part of other religious groups will be reflected in a decrease in the percentage of Protestants.

Tests of significance calculated for each year clearly show the trend toward greater equalization of representation. In 1921, 1931, and 1941 the correspondence between provincial population figures and university data are highly disparate, the difference being significant beyond the .001 level. In 1951 the difference is significant at the .01 level, but in 1961 there is no significant difference and the correspondence is close.

A comparison of percentages representing male and female students in attendance at university with provincial proportions, as shown in Table 7:10,

TABLE 7:10. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS AND OF PROVINCIAL POPULATION BY SEX AND RELIGION, ALBERTA, 1921-1961

Year	Sex	Percentage Distribution of University Sample										Distribution of Provin'l Population ^a			
		Religious Categories					Religious Categories					Religious Categories			
		Prot.	Cath.	Fund.	Jewish	Other	Total	Number	Prot.	Cath.	Fund.	Jewish	Other	Total	Number
1921 ^b	Male	61.6%	4.6%	0.8%	2.0%	1.1)%			39.1%	12.6%	1.3%	0.3%	1.8)%		
	Female	26.7	2.3	0.3	0.5	0.0)	99.9	393	32.3	10.1	1.2	0.2	1.0)	100.0	587,299
1931	Male	54.1	5.9	0.5	3.4	0.5)			36.8	14.8	1.3	0.3	1.5)		
	Female	31.0	2.5	0.5	0.9	0.8)	100.1	441	30.9	11.9	1.3	0.2	1.0)	100.0	730,582
1941	Male	52.4	11.0	0.9	2.9	1.1)			34.6	15.3	1.8	0.3	1.5)		
	Female	28.1	2.2	0.4	0.9	0.0)	99.9	445	30.2	13.1	1.8	0.2	1.1)	99.9	794,711
1951	Male	46.3	14.0	1.6	2.0	1.1)			33.4	14.9	1.6	0.3	2.2)		
	Female	25.1	7.4	1.6	0.9	0.0)	100.0	443	30.8	13.2	1.6	0.2	1.8)	100.0	939,501
1961	Male	40.8	16.6	2.3	0.7	0.5)			32.4	15.0	1.7	0.3	2.3)		
	Female	25.7	10.9	1.4	0.2	0.9)	100.0	439	30.7	13.6	1.7	0.2	2.0)	95.9	1,331,944

^aProvincial population figures are based on all ages for all years.

^bChi square test of correspondence significant at .001 level for all years.

reveals where the gains and losses have been made. The decrease in Protestant representation has been primarily among male students. The increase for Catholic students has been among both males and females, the

TABLE 7:11. INDICES OF REPRESENTATIVENESS FOR FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS, BY SEX AND RELIGION, ALBERTA, 1921-1961

Year	Sex	Index of Representativeness ^a				
		Protestant	Catholic	Fundamentalist	Jewish	Other
1921	Male	1.58	0.37	0.62	6.67	0.61
	Female	0.83	0.23	0.25	2.50	0.0
1931	Male	1.47	0.40	0.38	11.33	0.33
	Female	1.00	0.21	0.38	4.50	0.80
1941	Male	1.51	0.72	0.50	9.67	0.73
	Female	0.93	0.17	0.22	4.50	0.0
1951	Male	1.39	0.94	1.00	6.67	0.50
	Female	0.81	0.56	1.00	4.50	0.0
1961	Male	1.26	1.11	1.35	2.33	0.22
	Female	0.84	0.80	0.82	1.00	0.45

^aThe index of representativeness is the percentage in the university sample divided by the percentage in the provincial population of a given category.

males showing a steady but decided increase over time, the females having a relatively constant proportion until 1951 when a sudden upswing in representation occurred. A similar sudden upswing from 1951 on is evidenced by both males and females of the Fundamentalist religions; both equal their proportions in the province by that time and the males exceed it by 1961. Both male and female Jewish students exceed the provincial proportions for all years, males to a greater degree than females.

The increases observed beginning in 1951, coincide with the impressive increase in economic development and the process of urbanization which

was outlined in Chapter III. Greater prosperity, opportunity, and exposure to urban values could account for the changes noted. The bursary program has also likely contributed to the increases by 1961 when 4,479 high school students received financial awards totalling \$902,938.55.⁵ However, since the first awards reported are for 1953-54, when 98 students received awards totalling \$16,582.00,⁶ the increase noted in 1951 must be the result of other factors.

Tests to determine if a relationship exists between sex and religion among those at university using only the two categories Protestant and Catholic were found to be non-significant for all years except 1941. It is possible that the war had an influence at that time. More male Catholics than the expected frequency would indicate attended at that time. The same is true for Protestant females. In spite of this exception, it would seem that sex and religion are independent variables with respect to university attendance.

The results of tests to determine the relationship between age and religion were non-significant for all years. Hence the age at which students go to university is not related to the religious group with which they are affiliated.

Comparisons of religion to other variables will be discussed in later sections.

⁵Province of Alberta, Department of Education, 56th Annual Report, 1960-61, Edmonton, p. 94.

⁶Province of Alberta, Department of Education, 48th Annual Report, 1953-54, Edmonton, p. 91.

Birthplace of Father

The hypothesis stated that students with foreign-born parents would be represented at university at or near their proportion in the provincial population during the early periods, and would be slightly over-represented by 1961. Table 7:12 shows the index of representativeness for 1951 and 1961, the only years for which data were available.

When provincial proportions based on males, all ages, are compared to university proportions with reference to birthplace of father the results suggest that students whose fathers were born outside of Canada are much better represented than students with Canadian-born fathers. However, by 1961 students with Canadian-born fathers are much better represented than they were a decade earlier.

That this relationship is spurious may be seen by examining the second set of figures for 1951 in Table 7:13. In this case the provincial proportions are based on males 35 years of age and over. Since more of the older males are foreign-born, and these are the men who could have children at university, the proportions of students at university with foreign-born fathers is not so excessive as the first set of figures suggest. Unfortunately, comparisons to 1961 cannot be made since information by age is not yet available.

TABLE 7:12. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS BY BIRTHPLACE OF FATHER, AND PERCENTAGE DISTRIBUTION OF PROVINCIAL MALE POPULATION BY BIRTHPLACE, SHOWING INDEX OF REPRESENTATIVENESS, ALBERTA, 1951-1961

Birthplace	Percentage Distribution of University Sample		Percentage Distribution of Provincial Population ^a		Index of Representativeness ^c	
	1951 ^b	1961 ^b	1951	1961	1951	1961
Canada	38.2%	54.4%	73.3%	77.9%	0.52%	0.70%
Britain and Commonwealth	21.3	10.7	8.0	5.8	2.66	1.84
United States	12.7	10.0	5.9	3.8	2.15	2.63
Europe	23.5	22.4	12.7	12.6	1.85	1.78
Not known	4.2	2.4				
Total	99.9	99.9	99.9	100.1		
N =	450	450	939,501	1,331,944		

^aProvincial percentages based on males, all ages.

^bSignificance of chi square test of correspondence, .001 level.

^cThe index of representativeness is the percentage in the university sample divided by the percentage in the provincial population of a given category.

TABLE 7:13. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS BY BIRTHPLACE OF FATHER, AND PERCENTAGE DISTRIBUTION OF PROVINCIAL MALE POPULATION 35 YEARS OF AGE AND OVER BY BIRTHPLACE SHOWING INDEX OF REPRESENTATIVENESS, ALBERTA, 1951

Birthplace	Percentage Distribution of University Sample ^a		Percentage Distribution of Provincial Population		Index of Representativeness	
	1951	1961	1951	1961	1951	1961
Canada	38.2%		43.9%		0.87	
Britain and Commonwealth	21.3		17.5		1.22	
United States	12.7		13.3		0.95	
Europe	23.5		25.3		0.81	
Not known	4.2					
Total	99.9		100.0			
N =	450		193,357			

^aSignificance of chi square test of correspondence, .001 level.

CHAPTER VIII

ANALYSIS OF RESULTS--PLACE OF RESIDENCE

RURAL-URBAN RESIDENCE

General Hypotheses

The main hypothesis relating to the relationship between the rural-urban dichotomy and university attendance states that rural areas will be less well-represented at university for all time periods, but the trend will be in the direction of equalization. Does the evidence for Alberta support this statement? Table 8:1 shows that it does without qualification.

For none of the years studied does the index of representativeness for rural communities approach equality. On the other hand, there has been a steady increase in the index since 1921.

In 1921, 1931, and 1941 the definition of urban used by the Dominion Bureau of Statistics was based on incorporation of towns and villages rather than size.¹ Compared to 1951 and 1961, this has the effect of reducing slightly the proportion of the population classified as rural in the first three decades. Hence, the rural indices for these periods are somewhat higher than they would be if all periods were based on the same definition. The result would be an even sharper increase by 1951 than the figures in Table 8:1 indicate. Conversely the urban indices for the first three decades would be somewhat higher.

¹ See page 48 for details of definitions.

TABLE 8:1. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS AND OF PROVINCIAL POPULATION 15-34 YEARS OF AGE BY PLACE OF RESIDENCE, SHOWING INDEX OF REPRESENTATIVENESS, ALBERTA, 1921-1961

Year	Percentage Distribution of University Sample			Percentage Distribution of Provincial Population 15-34 Years of Age			Index of representativeness ^a	
	Rural	Urban	Total	Number	Rural	Urban	Rural	Urban
1921	26.6%	73.2%	99.8% ^b	400	62.1%	37.9%	0.43	1.90
1931	27.1	72.9	100.0	450	61.4	38.6	0.44	1.59
1941	28.9	71.1	100.0	450	59.3	40.7	0.49	1.75
1951	33.1	66.9	100.0	450	49.3	50.7	0.67	1.32
1961	25.8	74.2	100.0	450	33.5	66.5	0.77	1.12

^aThe index of representativeness is the percentage in the university sample divided by the percentage in the provincial population of a given category.

^b0.2 per cent unknown.

TABLE 8:2. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS AND OF PROVINCIAL POPULATION 15-34 YEARS OF AGE BY URBAN PLACE OF RESIDENCE, SHOWING INDEX OF REPRESENTATIVENESS, ALBERTA, 1921-1961

Year	Percentage Distribution of University Sample			Percentage Distribution of Provincial Population 15-34 Years of Age			Index of Representativeness ^b	
	Community Size 1,000- 24,999	Community Size 25,000 & Over	Total	Community Size 1,000- 24,999	Community Size 25,000 & Over ^a	Total	Community Size 1,000- 24,999	Community Size 25,000 & Over
1921	15.2 %	58.0 %	73.2 %	16.8 %	21.1 %	37.9 %	0.90	2.75
1931	18.0	54.9	72.9	15.3	23.2	38.6	1.17	2.37
1941	16.0	55.1	71.1	16.1	24.6	40.7	0.99	2.24
1951	14.0	52.9	66.9	17.0	33.7	50.7	0.82	1.87
1961	24.0	50.2	74.2	18.6	47.9	66.5	1.29	1.05

^aCities 25,000 and over include only Edmonton and Calgary for the first four decades. In 1961 Lethbridge and Jasper Place are also over 25,000.

^bThe index of representativeness is the percentage in the university sample divided by the percentage in the provincial population of a given category.

Table 8:2 shows the percentage of students coming from communities having a population of 1,000 to 25,000 and those having a population of 25,000 and over. Examination of the provincial population proportions reveals that urban growth in the province has been primarily in communities of 25,000 and over. Communities of size 1,000 to 25,000 have had approximately 15 to 17 per cent of the provincial population. Rural areas have lost about 25 per cent, and communities over 25,000 have gained 25 per cent of the population. (The percentages given here refer to the 15-34 year old age group.) Table 8:2 shows that while there has been a steady increase in the proportion of people living in large cities, there has been a decrease in their representativeness at university. The index drops from 2.75 in 1921 to 1.05 in 1961. This is in contrast to the increase in representativeness of urban communities with populations of 1,000 to 25,000 which show an erratic progress but have a high index of representativeness by 1961.

The hypothesis stated that the largest urban areas would be less well represented at university than the more moderate size cities. The foregoing discussion provides evidence which supports this hypothesis.

One other point in this connection should be mentioned. Until 1951 the index of representativeness for communities over 25,000 exceeded 2. As was pointed out earlier, rapid growth in the province followed 1941. Until that time no cities in the province exceeded 100,000. Hence, for the first three decades studied, it is actually moderate sized cities which are being dealt with. However, by 1961 when the index has dropped to 1, the Edmonton metropolitan district had a population of 337,568 and Calgary 279,062. By American standards, neither of these would qualify as "large"

urban areas; however, the phenomenon of lesser representation at university is present.

Sex

In Table 8:3 the percentage distributions of university students and the provincial population by rural-urban place of residence and sex are shown. Both males and females in rural areas are under-represented at university in all time periods. The index of representativeness for males shows only a small increase over time, but for females the increase is considerable. In fact, the increase in the proportion of rural young people attending university noted earlier is largely due to an increase in the representation of females, who are better represented than males by 1961.

The situation for urban areas is quite different. Urban males have been over-represented in all time periods, but the index shows a decline in representativeness over the years. Females, on the other hand, were over-represented in the first three decades only. The trend over time seems to be toward less representativeness for females from urban areas. By 1961, the index for urban females is very close to that for rural females.

With reference to cities 25,000 and over, Table 8:5 shows that males are better represented than females in all decades, but both show a sharp decline over time.

The hypothesis with reference to sex and place of residence stated that females from small communities and rural areas would be better represented at university than males. As indicated, this is indeed the case in

TABLE 8:3. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS AND OF PROVINCIAL POPULATION 15-34 YEARS OF AGE BY RURAL-URBAN PLACE OF RESIDENCE AND SEX, ALBERTA, 1921-1961

Year	Percentage Distribution of University Sample				Percentage Distribution of Provincial Population 15-34 Years of Age						Total	Number		
	Rural		Urban		Rural		Urban		Male				Female	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female			Male	Female
1921 ^{bc}	20.1%	6.5%	49.9%	23.3%	99.8 ^a %	400	36.7%	25.4%	18.1%	19.8%	100.0	194,406		
1931	18.0	9.1	46.7	26.2	100.0	450	35.4	26.0	18.5	20.0	99.9	248,019		
1941	20.7	8.2	48.0	23.1	100.0	450	32.3	27.0	19.0	21.7	100.0	274,510		
1951	18.4	14.7	46.7	20.2	100.0	450	26.8	22.5	23.6	27.1	100.0	298,134		
1961	13.1	12.7	48.4	25.8	100.0	450	18.5	15.0	32.8	33.7	100.0	380,729		

^a0.2 per-cent unknown.

^bSignificance of chi square test of correspondence: .001 level for all years.

^cSignificance of chi square test of relationship: 1921, 1931, and 1941 - non-significant, 1951, and 1961 - significant at .01 level.

TABLE 8:4. INDICES OF REPRESENTATIVENESS FOR FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS BY RURAL-URBAN PLACE OF RESIDENCE AND SEX, ALBERTA, 1921-1961

Year	Index of Representativeness ^a			
	Rural		Urban	
	Male	Female	Male	Female
1921	0.55	0.26	2.76	1.18
1931	0.51	0.35	2.52	1.31
1941	0.64	0.30	2.53	1.06
1951	0.69	0.65	2.00	0.75
1961	0.71	0.85	1.48	0.77

^aThe index of representativeness is the percentage in the university sample divided by the percentage in the provincial population of a given category.

TABLE 8:5. PERCENTAGE DISTRIBUTION OF FULL-TIME UNIVERSITY STUDENTS AND OF PROVINCIAL POPULATION
15-34 YEARS OF AGE BY PLACE OF RESIDENCE AND SEX, ALBERTA, 1921-1961

Year	Percentage Distribution of University Sample						Percentage Distribution of Provincial Population 15-34 Years of Age					
	Community Size						Community Size					
	1,000-24,999		25,000 & Over ^a		Total	Number	1,000-24,999		25,000 & Over ^a		Total	Number
	Male	Female	Male	Female			Male	Female	Male	Female		
1921	11.7%	3.5%	38.2%	19.8%	73.2	294	8.4%	8.4%	9.7%	11.4%	37.9	73,664
1931	12.7	5.3	34.0	20.9	72.9	328	7.4	7.9	11.1	12.1	38.6	95,605
1941	10.7	5.3	37.3	17.8	71.1	320	7.8	8.3	11.2	13.4	40.7	111,725
1951	12.5	5.5	38.2	14.7	66.9	301	7.9	9.0	15.7	18.0	50.7	151,282
1961	13.5	10.5	34.9	15.3	74.2	334	9.3	9.3	23.5	24.4	66.5	253,158

^aCities 25,000 and over include only Edmonton and Calgary for the first four decades. In 1961 Lethbridge and Jasper Place are also over 25,000.

TABLE 8:6. INDICES OF REPRESENTATIVENESS FOR FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS BY PLACE OF RESIDENCE AND SEX, ALBERTA, 1921-1961

Year	Index of Representativeness ^a			
	1,000-24,999		25,000 and over	
	Male	Female	Male	Female
1921	1.40	0.42	3.94	1.74
1931	1.72	0.67	3.06	1.73
1941	1.37	0.64	3.33	1.33
1951	1.58	0.61	2.43	0.82
1961	1.45	1.13	1.49	0.63

^aThe index of representativeness is the percentage in the university sample divided by the percentage in the provincial population of a given category.

TABLE 8:7. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS AND OF PROVINCIAL POPULATION 15-34 YEARS OF AGE BY PLACE OF RESIDENCE AND RELIGION, ALBERTA, 1921-1961

Year	Place of Residence	Percentage Distribution of University Sample					Total	Number
		Prot.	Cath.	Fund.	Jewish	Other		
1921 ^a	Rural	23.9%	1.3%	0.3%	0.5%	0.0%)		
	Urban	64.5	5.8	0.8	2.0	1.0)	100.0	393
	25,000 & over	49.4	5.5	0.3	2.0	0.8	58.0	230
1931	Rural	22.9	3.4	0.2	0.5	0.2)		
	Urban	62.1	5.0	0.7	3.9	1.1)	100.0	441
	25,000 & over	47.2	3.4	0.2	3.6	0.7	55.1	243
1941	Rural	21.8	5.8	0.7	0.2	0.0)		
	Urban	58.7	7.4	0.7	3.6	1.1)	100.0	445
	25,000 & over	44.7	5.8	0.4	3.4	1.1	55.4	247
1951	Rural	19.6	11.1	1.8	0.5	0.2)		
	Urban	51.7	10.4	1.4	2.5	0.9)	100.1	443
	25,000 & over	40.7	7.9	0.9	2.5	0.7	52.7	234
1961	Rural	15.0	9.6	0.7	0.0	0.7)		
	Urban	51.5	18.0	3.0	0.9	0.7)	100.1	439
	25,000 & over	33.5	13.7	1.4	0.5	0.7	49.8	218
Year	Place of Residence	Percentage Distribution of Provincial Population					Total	Number
		Prot.	Cath.	Fund.	Jewish	Other		
1921		Not available						
1931	Rural	38.2%	20.3%	2.0%	0.0%	1.2%)		
	Urban	28.5	8.0	0.6	0.5	0.8)	100.1	247,752
	25,000 & over	17.5	4.5	0.3	0.4	0.5	23.2	57,443
1941	Rural	35.2	19.8	2.7	0.0	1.5)		
	Urban	30.1	8.4	0.8	0.5	0.9)	99.9	273,743
	25,000 & over	18.4	4.5	0.4	0.4	0.5	24.2	67,150
1951	Rural	27.5	17.3	2.3	0.0	2.1)		
	Urban	35.3	12.4	0.9	0.4	1.7)	99.9	298,134
	25,000 & over	23.4	8.3	0.5	0.4	1.0	33.6	100,250
1961	Rural	17.7	11.4	1.4	0.0	3.0)		
	Urban	40.5	18.7	1.1	0.4	5.8)	100.0	380,729
	25,000 & over	29.1	13.7	0.7	0.4	4.0	47.9	182,215

^aSignificance of chi square test of correspondence: 1931, 1941, and 1951, .001 level; 1961, non-significant.

TABLE 8:8. INDICES OF REPRESENTATIVENESS FOR FULL-TIME UNDERGRADUATE STUDENTS BY PLACE OF RESIDENCE AND RELIGION, ALBERTA, 1921-1961

Year	Place of Residence	Index of Representativeness ^a				
		Prot.	Cath.	Fund.	Jewish	Other
1921		Not available				
1931	Rural	0.60	0.17	0.10	--	0.18
	Urban	2.18	0.62	1.17	7.80	1.38
	25,000 & over	2.70	0.75	0.67	9.00	1.40
1941	Rural	0.62	0.29	0.26	---	0.0
	Urban	1.95	0.88	0.88	7.20	1.22
	25,000 & over	2.43	1.29	1.00	8.50	2.20
1951	Rural	0.71	0.64	0.78	--	0.10
	Urban	1.46	0.84	1.56	6.25	0.53
	25,000 & over	1.75	0.95	1.80	6.25	0.70
1961	Rural	0.86	0.34	0.50	--	0.23
	Urban	1.27	0.96	2.73	2.25	0.12
	25,000 & over	1.15	1.00	2.00	1.25	0.18

^aThe index of representativeness is the percentage in the university sample divided by the percentage in the provincial population of a given category.

Alberta by 1961.

Religion

Table 8:7 shows percentage distributions for each of the religious categories on a rural-urban basis for university students and the provincial population. Urban communities 25,000 and over are also shown.

For all years studied rural Protestants are under-represented and urban Protestants over-represented. While the proportion of rural Protestants in this age group is decreasing in the province, their relative proportion is increasing slightly at university, as indicated by the index. Conversely the proportion of urban Protestants in the province is increasing but decreasing at university. Examination of the indices shows that while there is still considerable difference between the two, there is a clear trend toward closing of the gap.

Examination of the figures shows that the majority of urban Protestants live in communities 25,000 and over. For 1931, 1941, and 1951 they are the most over-represented of the Protestants, but there is a steady decline in this over-representation until in 1961 they are less well represented than urban residents in general. This indicates an increase in the proportion of students coming from communities of sizes between 1,000 and 25,000 who are Protestant.

In the case of rural and urban Catholics, it will be noted that until 1961 both were consistently under-represented. However, there has been a steady increase in representation for both categories. By 1961 rural Catholics are almost as well represented as rural Protestants.

The representation of Catholics living in communities of 25,000

and over shows some fluctuation. In 1931 the disparity between Protestant and Catholic representativeness was very great, but by 1941 Catholics had increased their proportion. By 1961 Catholics and Protestants in communities 25,000 and over were equally well represented at university. The factors involved in the differential attendance at university of Protestants and Catholics appear no longer to be functioning.

Rural Fundamentalists were poorly represented at university in 1931 and 1941, but in 1951 there was a sudden increase and then a drop in 1961. The increase was not the result of the influx of veterans as none were Fundamentalist in 1951 in our sample. Urban Fundamentalists show an increase in representation over time and are extremely well represented in 1961.

Since the proportion of Jews living in rural communities is close to zero, the rural index has no meaning. Urban Jews are vastly over-represented, but a decline over time is evidence. The reason for this decline was discussed in Chapter VI.

Comparison of the index of representativeness for all urban communities of 25,000 and over suggests that there has been an increase over time in the proportion of urban Jews living in communities of from 1,000 to 25,000 who go to university.

The "other" category is composed of such disparate religions as to make analysis meaningless.

It is interesting that in 1961 the index for the 25,000 and over category is lower for all religions than for the urban category. This is the only year for which this is the case. The factors responsible

for reduced university-going on the part of residents of very large cities affect all religious groups.

Tests to determine the correspondence between university frequencies and provincial population percentages for religion and the rural-urban dichotomy were significant at the .001 level for 1931, 1941, and 1951. For 1961 the results were non-significant. In other words, by 1961 the correspondence between university and provincial proportions is close, and hence the various categories are being about equally well represented at university. Before 1961 the various groups were differentially represented. Whatever factors associated with religion and rural-urban residence which made for variance in attaining a university education have ceased to operate.

TIME-DISTANCE INDEX

The hypothesis relating to the Time-Distance Index stated that the disparity in representativeness of rural and urban areas would be diminished when the influence of urbanization was controlled. In order to find evidence to support this hypothesis, it is necessary to make comparisons between place of residence by community size and T-D index.

Table 8:9 provides percentage distributions of university students by place of residence for each decade since 1921 classified according to community size and according to T-D index, using seven categories for each. Examination of these distributions shows that for the T-D index there is a consistent and almost direct relation between nearness to communities of substantial size as measured in time and the percentage of students coming from these communities. For the four decades beginning

TABLE 8:9. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS BY TIME-DISTANCE INDEX^a AND BY COMMUNITY SIZE, ALBERTA, 1921-1961

Community Rating	1921	1931	1941	1951	1961
<u>Time-Distance Index</u>					
Under 0.5	59.4%	58.7%	60.4%	61.3%	68.4%
0.6 - 1.0	2.0	17.8	14.7	19.1	18.2
1.1 - 1.5	5.3	6.7	8.0	9.1	8.2
1.6 - 2.0	11.3	6.0	7.8	4.7	1.6
2.1 - 2.5	5.8	5.1	3.8	1.7	1.6
2.6 - 3.0	3.5	1.6	1.6	1.3	1.1
Over 3.0	12.6	4.2	3.6	2.7	0.9
	99.9	100.1	99.9	99.9	100.0
<u>Community Size^b</u>					
25,000 and over	58.0%	54.9%	55.1%	52.9%	50.2%
10,000 - 24,999	0.8	6.2	4.4	3.1	4.0
5,000 - 9,999	2.8	0	0	0.9	2.2
2,500 - 4,999	0	0.7	2.2	2.4	6.9
1,000 - 2,499	11.8	11.1	9.3	7.6	10.9
250 - 999	12.0	13.6	9.8	11.6	12.4
Under 250	14.5	13.6	19.1	21.6	13.3
	99.9	100.1	99.9	100.1	99.9
Number	400	450	450	450	450

^aSee pages 96-97 for definition and method of calculation.

^bChi square tests of correspondence using four categories (under 999, 1,000 - 2,499, 2,500 - 24,999, and 25,000 and over) were significant at the .001 level for each year.

with 1931, over half of the students come from communities having a T-D index of under 0.5. There is a sharp drop in the percentage for the 0.6 - 1.0 category, but in all four decades this category has the second largest percentage. For each succeeding category, which indicate increased isolation, there is a consistent decrease in the percentage of students coming from communities falling in these categories. The one exception is the most isolated category of over 3.0. For 1931, 1941, and 1951 communities having a T-D index of over 3.0 appear to contribute more

than the expected proportion of students. It is possible that this group represents children of professional people who are basically city-oriented but who are living in remote areas; for example, physicians and teachers in northern settlements. However, it will be noted that the percentage of students coming from communities having a T-D index of over 3.0 has decreased with each decade, until in 1961 students from such communities represent the smallest proportion of any category as hypothesized.

Examination of the T-D index distribution for 1921 reveals that the consistent decrease in percentage with increased isolation does not hold at that time. This suggests that at that time cities did not have urban fringe areas. If one lived outside of the city limits one was living in a sparsely-settled farming area. Hence the low percentage for the category 0.6 - 1.0 is likely a reflection of the actual number of people who were living on farms close to large cities. Similarly, the increase in percentage for the category 1.6 - 2.0 is likely a reflection of the greater population concentration in smaller towns, which, because of poor roads and slow transportation, would have a higher index.

The distribution for 1921 suggests that at that time the people of the Province of Alberta lived in "rural" or "urban" communities, and the dichotomy had relevance to actual conditions. Since that time, however, the process of urbanization has been breaking down the rural-urban lines of distinction as measured by community size such that increasingly they have little relevance to the ecology of this society.

A comparison of the distributions for 1921 and 1961 for T-D index categories reveals the extent to which the influence of urbanization has

changed the proportion of students coming from communities in the various categories. The 1921 distribution shows no pattern while the 1961 distribution shows a consistent and direct relationship to urbanizing influences which is unmistakable.

The percentage distributions of university students by community size are in striking contrast to those for the T-D index. It will be seen from Table 8:9 that the community size distributions in all decades are similar. There is a decline of about eight per cent in the percentage of students coming from cities of 25,000 and over from 1921 to 1961, and an increase of about seven per cent in the percentage of students from communities having a population of from 2,500 to 4,999, but in other respects the variations show no pattern. For all decades from 26 to 33 per cent of the students come from communities of under 1,000. These distributions are of interest because of the small amount of change they evidence over a forty-year period. They present a picture of a relatively static society which other evidence presented has shown to be untrue. The fact that these distributions show so little change over time in spite of the remarkable changes in population and in the economy, suggests that community size is not a valid classification for studies of this kind. The distributions for students by T-D index, on the other hand, show progressive changes over the years as conditions in the province have changed. These comparisons suggest that it is urban influence and not community size per se which is an important influence in university-going. Whether or not a community happens to be arbitrarily defined as rural is of little consequence--if it is close to urban influences it is likely to have a culture which is essentially urban.

To illustrate further, Table 8:10 shows the relationship between T-D index and communities of under 250 over the years. It will be noted that the percentage of communities under 250 with a T-D index of .5 and less represented at university has increased markedly since 1921. On the other hand, there has been an even more noticeable decrease in the proportion of communities of this size with a T-D index of over 3.0. For

TABLE 8:10. PER CENT OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS COMING FROM COMMUNITIES OF UNDER 250 HAVING A TIME-DISTANCE INDEX OF UNDER 0.5, OVER 2.0, AND OVER 3.0, AND NUMBER AND PER CENT OF STUDENTS FROM COMMUNITIES OF UNDER 250, ALBERTA, 1921-1961

Year	Per cent of Students from Communities of Under 250 Having a Time-Distance Index			Communities of Under 250	
	Under 0.5	Over 2.0	Over 3.0	Number of Students	Per cent of Sample
1921	3.4%	72.4%	56.9%	58	14.5
1931	11.5	47.6	24.6	61	13.6
1941	2.3	37.3	16.3	86	19.1
1951	10.3	19.6	9.3	97	21.6
1961	23.3	18.3	6.7	60	13.3

example, in 1921, 56.9 per cent of communities under 250 had a T-D index of over 3.0, while only 3.4 per cent had a T-D index of under 0.5. By 1961, the picture had changed considerably. Only 6.7 per cent of communities of under 250 had a T-D index of over 3.0, but 23.3 per cent had a T-D index of under 0.5. A possible interpretation is that there has been an increase in representation from small communities which are close to urban influences and a corresponding decrease in representation from more remote isolated communities. However, a more likely explanation is that with increased population and urban development more small communities

have come within the orbit of larger ones, have themselves grown thus reducing the index, or have been brought closer to larger communities because of improved roads and transportation; hence fewer isolated small communities now exist. Since census figures based on the T-D index are not available, a direct comparison is not possible. However, columns 4 and 5 of Table 8:10 may be of value in this connection. These figures indicate that small communities continue to be as well represented now as in the earlier years, but since fewer such communities now exist in the province, representativeness has actually increased. This is consistent with the information presented in Table 8:1. Most of the communities of under 250 included in the 1921 data have grown considerably during the period under discussion. It is possible, however, that a different kind of small community is now represented at university; that is, those closer to urban centers. To show that this is unlikely and that a change in T-D index over time is responsible, the case of one community under 250 which has not grown over the 40 year period is cited. In 1921 Halkirk had a T-D index of 4.5; by 1951 Halkirk's T-D index had gone down to 1.69. It follows from the foregoing and from the information in Table 8:10 that improved roads, transportation, and urban development are responsible for the increase in percentage of those with a T-D index of under 0.5.

Summary

It was stated in the analysis of place of residence based on the rural-urban dichotomy that rural representativeness has greatly increased since 1921. In spite of this increase urban areas remain better represented.

The foregoing discussion of the T-D index shows that the increase in rural representativeness is, to a large degree, associated with a lower T-D index and hence increased urbanization of communities classified as rural. The proportion of students coming from communities of under 250 has remained relatively constant in each decade in spite of the drastic reduction since 1921 of the proportion of the population living in such communities. This increase in representativeness is seen partly as the influence of urbanization.

Comparisons of figures in Table 8:9 indicate that in 1921 community size is an important variable but since that time it has become less important as small communities have come closer to large ones in terms of time. The T-D index is sensitive to changes occurring in the province as may be observed from the progressive change over time of student distributions, while distributions based on community size are similar in all decades and do not reflect changing population and other trends.

The foregoing analysis offers support to the hypothesis that the disparity in representativeness of rural and urban areas will be diminished when the influence of urbanization is controlled.

CHAPTER IX

ANALYSIS OF RESULTS--SOCIO-ECONOMIC STATUS

Socio-economic status as defined by the Blishen occupational class scale is analysed in this chapter. Also included is a brief survey of the student farm population, as for all years students coming from farm homes represent the largest single category at the university.

The figures used for the provincial population proportions are in all cases for males only. Wherever census data were available by age groups, occupations of those men 35 years of age and over only were used. This was done in order to refine figures as much as possible by confining them to those who could conceivably have children at university. When figures are based on all ages the extremes are distorted relative to the 35 and over group. Class 1 represents a lower proportion while Class 7 is higher for males of all ages. In 1931 when occupations were not reported according to age, marital status was used as a substitute for the same reason. Single men would not have children at university and would in general comprise the younger age categories.

Table 9:1 shows a comparison of distributions by the Blishen occupational class scale of the university sample population and the provincial population. An index of representativeness is also shown. It will be noted that for each year Classes 1, 2, 3, and 4 are all over-represented and that the higher the class the greater the degree of over-representation. Classes 5, 6, and 7 are under-represented and, in this case, the lower the class the greater the degree of under-representation.

TABLE 9:1. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE UNIVERSITY STUDENTS AND OF PROVINCIAL POPULATION BY BLISHEN'S OCCUPATIONAL CLASS SCALE, ALBERTA, 1921-1961

Class	University Percentages					Provincial Percentages ^d					Index of Representativeness				
	1921 ^a	1931	1941	1951	1961	1921 ^b	1931 ^c	1941 ^b	1951 ^b	1961 ^b	1921	1931	1941	1951	1961
1	11.6%	10.8%	9.3%	7.3%	6.1%	1.3%	1.1%	0.9%	1.0%	1.5%	8.92	9.82	10.33	7.30	4.07
2	29.5	40.1	29.1	22.2	24.4	11.5	9.9	8.9	14.2	18.5	2.57	4.05	3.27	1.56	1.32
3	7.7	10.3	12.0	13.6	12.4	2.2	3.2	3.2	4.0	4.2	3.50	3.22	3.75	3.40	2.95
4	0.3	3.8	4.4	5.3	4.1	0.9	2.7	2.6	2.3	2.6	0.33	1.41	1.69	2.30	1.58
5	45.4	27.6	38.1	42.2	40.6	63.9	60.4	60.1	52.6	46.5	0.71	0.46	0.63	0.80	0.87
6	4.6	3.3	4.4	5.3	7.6	8.0	8.0	8.5	12.6	13.8	0.58	0.41	0.52	0.42	0.55
7	0.9	4.1	2.7	4.0	4.8	12.2	14.8	15.8	13.4	12.9	0.07	0.28	0.17	0.30	0.37
Total	100.0	100.0	100.0	99.9	100.0	100.0	100.1	100.0	100.1	100.0					
N ^e =	1278	369	409	396	394	99,170	147,778	147,470	158,676	197,251					

^aUniversity percentages for 1921 based on total student population from Report of the Board of Governors, 1923-24.

^bCensus percentages based on males only, 35 years of age and over.

^cCensus percentages based on males only, married, widowed and divorced.

^dChi square tests of correspondence significant at the .001 level for all years.

^eUniversity percentages do not include deceased, retired or unknown.

This relationship is consistent throughout.

The hypothesis stated that representativeness of students classified by socio-economic status would be directly related to the status hierarchy. This has been shown to be the case for all classes except Class 2, which shows greater variation. Goodness-of-fit tests indicate a significant difference between university and provincial class proportions at the .001 level for all years.

A second hypothesis stated that over time the representativeness of the lower socio-economic levels would increase. To evaluate the validity of this hypothesis the representativeness of each class over time is reviewed.

In the case of Class 1, while the proportion in the provincial population has remained relatively constant, there has been a steady decrease in the percentage of students of this class at university. This suggests that Class 1 has been maximally represented throughout and that as the university has increased in size the extra students are coming from other classes.

The picture for Class 2 is less consistent. The provincial population figures show a decline in proportion in 1931 and 1941 followed by an upswing in the following two decades. It is possible that the decline in 1931 was a result of depression conditions and the one in 1941 may be related to the fact that large numbers of men were in the armed services who are not included in the figures used. This, of course, is conjecture. The increase in percentage of those in Class 2 in the province in 1951 and 1961 may reflect an increase in the semi-professional occupations. Relative to the university data, the large increase in the percentage in Class

2 in 1931 may again be related to the depression. It is suggested that many young people in this class would go to university at a time when employment was so difficult to obtain. This class is consistently over-represented, but the degree of over-representation would appear to be variable and is, no doubt, related to a complex of factors.

There is a consistent increment in the proportion of the provincial population falling in Class 3. Although the proportion falling in this class is small, it has almost doubled over the past 40 years. While students at university who fall in Class 3 have increased their percentage in the student body, they have not done so to the same degree as the class has increased in the provincial population. This class is, however, in all years, considerably over-represented.

The situation for Class 4 is again not too stable. The proportion of this class in the provincial population has trebled during the past 40 years, but the increment has not been a steady one. The proportion of the university sample population falling in this class shows minor fluctuations but no discernible trend. Except for 1921, however, this class is over-represented at university.

The percentage of the provincial population falling in Class 5 has steadily decreased over the years by a total of almost 20 per cent. This is equal to the decrease in the number of farmers mentioned in Chapter III, who are rated as Class 5. In the university population the percentage varies. The decided dip in 1931 is very likely due to the depression, and the somewhat depressed percentage at university in 1941 may be the result of war conditions. By 1961, however, the percentage at university is approaching equality of representation.

The percentage of the provincial population falling in Class 6 has consistently increased over the years and has almost doubled for the age group under consideration. This class is under-represented at university for all years and there is no trend to greater equalization of representation.

Class 7 shows some decrease in percentage in the provincial population since 1931. This shows more clearly when the percentages for Class 7 for males of all ages rather than those 35 years of age and over are compared: 1931, 31.2 per cent; 1941, 26.4 per cent; 1951, 19.8 per cent; 1961, 17.2 per cent. There is more variability in the figures shown in the table partly, it is believed, because they are not all based on the same kind of population. The percentage of students at university from Class 7 has also been variable.

The second hypothesis regarding an increase in representativeness over time of the lower socio-economic classes is only partially supported. Class 5 is the only class for which there is clear indication of an increase over time. Classes 6 and 7 show little or no increase in representativeness.

Sex

With reference to sex and socio-economic status, Table 9:2 shows the distribution of percentages for males and females in our university sample populations in each of the seven occupational classes. Tests to determine if a relationship exists were non-significant for all years for which data are available except 1951. In other years, for each class, males consistently outnumber females. Sex and class position would, therefore, appear to be independent relevant to university attendance.

The hypothesis stated that females would be better represented at university than males from the lower socio-economic levels. The only class where females outnumber males is Class 3 in 1951. The hypothesis must, therefore, be rejected.

TABLE 9:2. PERCENTAGE DISTRIBUTION OF FULL-TIME UNDERGRADUATE STUDENTS BY SOCIO-ECONOMIC STATUS AND SEX, ALBERTA, 1921-1961

Class	1931 ^a		1941		1951		1961	
	Male	Female	Male	Female	Male	Female	Male	Female
1	7.86%	2.98%	6.11%	3.18%	5.30%	2.02%	3.81%	2.28%
2	27.64	12.47	17.85	11.25	17.17	5.05	16.50	7.86
3	5.42	4.88	7.09	4.89	6.31	7.32	6.60	5.84
4	2.98	0.81	3.18	1.22	3.54	1.77	2.79	1.27
5	19.78	7.86	28.60	9.54	25.25	16.92	23.35	17.26
6	2.71	0.54	3.18	1.22	3.03	2.27	4.82	2.79
7	2.98	1.08	1.96	0.73	3.03	1.01	3.05	1.78
Total	99.98		100.0		99.9		100.0	
Number ^b	369		409		396		394	

^aSignificance of chi square test of relationship: 1931, 1941, and 1961 - non-significant; 1951, significant at .01 level.

^bNumbers do not include deceased, retired or unknown.

Age and Marital Status

No relationship was found between age and occupational class for any year tested. Class position does not influence the age at which young people go to university. It was hypothesized that there would be a higher proportion of older students from the lower classes on the grounds that they would be more likely to take time out after high school graduation to work before going to university. This hypothesis does not apply in Alberta.

Tests to determine if a relationship exists between marital status and occupational class for 1950-51 and 1960-61 were non-significant. It

was hypothesized that more students of the lower socio-economic classes would be married. Married students are distributed in all classes.

Religion

To test for a relationship between religion and socio-economic status, two religious categories, Protestant and Catholic were used. The classes were grouped in pairs, except for Class 5 which stood alone. The results for 1931 were non-significant, but tests for all succeeding sample years were significant at the .02 level or better. For these latter years it was found the Protestants of the four highest classes were over-represented relative to Catholics. In the three lowest classes Catholics were over-represented relative to Protestants. This appears to confirm the hypothesis that lower-class Catholics will be better represented at university than lower-class Protestants. However, since it is possible that there are more Catholics than Protestants in the lower three classes and more Protestants than Catholics in the upper classes, which could also account for the results obtained, the results remain unclear.

Farm Population

Students from farm homes represent the largest single category for each year. In 1921 they represented 33 per cent of the university population; in 1931, 20 per cent; 1941, 23 per cent; 1951, 33 per cent; and in 1961, 30 per cent. With the exception of the depression and war years their percentage at university has been largely maintained. Since there has been a drop of over 20 per cent in the percentage of the population living on farms, this means that the proportion of the group going to university has increased. This is clearly indicated in Table 9:3 which

shows an index of representativeness.

TABLE 9:3. PER CENT OF UNIVERSITY STUDENTS WHOSE FATHERS ARE FARMERS AND OF PROVINCIAL MALE LABOR FORCE 35 YEARS AND OVER ENGAGED IN FARMING, SHOWING INDEX OF REPRESENTATIVENESS

Year	Percentage of University Students Whose Fathers Are Farmers	Percentage of Provincial Labor Force 35 Years and Over Engaged in Farming	Index of Representativeness ^a
1921	32.8%	55.8%	0.59
1931	19.8	52.1	0.38
1941	23.2	53.8	0.43
1951	32.6	40.9	0.80
1961	29.7	26.2	1.13

^aThe index of representativeness is the percentage in the university sample divided by the percentage in the provincial population of a given category.

The hypothesis relative to students from farm homes stated that they would be less well represented at university than Class 5 or higher classes. Comparisons of the indices of representativeness from Tables 9:1 and 9:3 show that while this statement is true for the first three decades, in 1941 Class 5 and farm fathers are equally well represented. By 1961 farm fathers were better represented. Hence the data do not support this hypothesis.

Table 9:4 provides a percentage distribution of students coming from farm homes by sex. It will be seen that over time the proportion of females has increased to 45 per cent, which is considerably higher than the proportion for the university as a whole, but still lower than for males. The only year for which provincial figures are available for the farm population by sex is 1951. At that time males represented 54.3 per cent of the 15-34 year old age group and females 45.6 per cent, hence,

for 1951 the index of representativeness would be very close to equality for both sexes. According to the literature, rural females are better educated than rural males on the average. This is not true at the university level in Alberta in 1951.

TABLE 9:4. PERCENTAGE DISTRIBUTION OF UNIVERSITY STUDENTS COMING FROM FARMS BY SEX, ALBERTA, 1931-1961

Sex	1931	1941	1951	1961
Male	68.5%	77.9%	55.0%	54.7%
Female	31.5	22.1	45.0	45.3
Total	100.0	100.0	100.0	100.0
Number	73	95	129	117

The majority of farm students are Protestant in all years, but over time the discrepancy between Protestant and Catholic has narrowed. At the same time the percentage belonging to the Fundamentalist religions has increased.

TABLE 9:5. PERCENTAGE DISTRIBUTION OF UNIVERSITY STUDENTS COMING FROM FARMS BY RELIGION, ALBERTA, 1931-1961

Religion	1931	1941	1951	1961
Protestant	76.7%	75.8%	61.2%	58.1%
Catholic	15.1	18.9	28.7	31.6
Fundamentalist	1.4	2.1	5.4	6.0
Jewish	0	2.1	0	0
Other	6.9	1.1	4.7	4.3
Total	100.1	100.0	100.0	100.0
Number	73	95	129	117

A comparison of the rural category of the provincial population distribution by religion shown in Table 8:4 will provide a very rough idea of the representativeness for the various years. The Protestant-Catholic differential in 1931 is very great, but by 1961, these two religious groups are about equally represented at university.

CHAPTER X

SUMMARY AND EVALUATION

The purpose of this study was to determine the social characteristics associated with university attendance and to determine the trends in this connection over the time period 1921-1961. By so doing an evaluation of social mobility trends in Alberta with reference to higher status occupations can be made.

The method used was to take a random sample of full-time undergraduate students at the University of Alberta from the records of the Registrar for the years 1923-24, 1931-32, 1942-43, 1950-51, and 1960-61. Data were collected for each student in the samples on the following independent variables: sex, age, marital status, religion, birthplace of father, place of residence, and occupation of father. Information from Canadian census publications was obtained for the Province of Alberta on each of the variables in order that it could be ascertained whether differences in frequencies were the result of differential motivation and/or opportunity to attend university of the various groups investigated, or whether the differences merely reflected the composition of the provincial population.

FINDINGS RELATED TO HYPOTHESES

A review of the findings with reference to the hypotheses follows:

1. It was predicted that the proportion of young people who attend university would have increased since 1921. Based on the age category

15-24 years, four per cent of Alberta young people are now attending the University of Alberta as compared to one per cent in 1921. This is slightly in excess of the national average for university attendance and represents a greater gain since 1921. Both increased sharply between 1941 and 1951. It will be recalled that part of the gain in Alberta is the result of the inclusion of teacher training in the university, hence the increase is not quite so remarkable as might first appear. It is thought that the remainder of the increase is the result of influences created by economic development and urbanization. The trend is the same as that found in the United States but the percentage is considerably lower here.

2. Males outnumber females in all time periods, but there is some indication of a trend toward lessening of the disparity. Female enrollment in Alberta is approximately 38 per cent, which is considerably greater than the 23 per cent for females in Canada. It approaches the male-female ratio of 3:2 in the United States. This finding implies the corollary that males are not so well represented at university in Alberta as at universities in Canada as a whole.

3. The prediction that there would be a trend over time of greater representation of the older age categories is not supported. The reverse situation holds. In 1961 over 50 per cent of the student population was under 19 years of age as compared to 35 per cent in 1921. This hypothesis was based on findings in the United States that more young people, realizing the importance of education, are willing to work for a few years after high school graduation in order to acquire sufficient money to make further education possible. While this may be true, data presented show that on a percentage basis this group is getting smaller at university in Alberta.

4. The hypothesis with reference to sex and age stated that the difference between the proportions of male and female students would increase with the age of the students. The hypothesis followed the finding in the United States that male students more often than females defer going to university for a few years. While there are significant differences in male-female representation in the various age categories, these differences occur mainly in the 20-24 year old age category. Hence, it is possible the results indicate that males more often than females choose patterns which require more prolonged study. For this reason no conclusion can be reached in this connection.

5. An increase in the proportion of married students was predicted. A trend in the hypothesized direction is in evidence, but since data are available for only two time periods, no firm statement can be made.

6. It was also thought that a higher proportion of males than females would be married on the grounds that a wife would be more likely to encourage university-going on the part of her husband than the reverse. This hypothesis was not supported.

7. With reference to religion, in accord with many American studies, it was hypothesized that the highest index of representativeness would be obtained by Jews, Protestants, and Catholics in that order. This was found to be the case for all time periods. Fundamentalists, whose numbers are small both in the province and at university, show a sizable increase over time, and in 1961 are represented on a par with other Protestants. It is of interest that both the Catholic and Fundamentalist religions show their increases after 1941 when the economy and urbanization were rapidly developing.

8. It was predicted that differential representation at university for Protestants and Catholics would decrease over time. This was definitely shown to be the case. By 1961, the difference in representation is not significant.

9. On the basis of studies in the United States it was predicted that foreign-born fathers would be better represented at university than Canadian-born fathers. This was not found to be true in Alberta. British-born fathers are best represented, with American-, Canadian-, and European-born following in that order with little difference between each.

10. Most studies in the United states have found a rural-urban differential. It was therefore hypothesized that rural areas would be less well represented at university for all time periods, but that the trend would be in the direction of equalization. This was found to be true in Alberta. In 1921 a large discrepancy was found between representation of rural and urban residents. By 1961 the difference between rural and urban representation had narrowed considerably. It is again noted that the main change occurs after 1941.

11. It has been found in a number of studies in the United states that the largest urban areas are less well represented than smaller cities, and a similar situation for Alberta was hypothesized. It was found that until 1951 the larger cities had a higher rate of representation at university than the urban category which includes all communities over 1,000. Up until this time neither Calgary nor Edmonton exceeded a population of 200,000. The rapid growth of these cities in the decade after 1941, however, appears to have had the influence on university attendance observed in larger metropolitan districts in the United States. In 1961

representation for these centers fell behind that for urban communities in general.

A possible cause for this effect of very large cities on attendance at university can only be a conjecture at this time. However, it is suggested that the presence of a quantity of varied occupations in such centers presents many young people with a choice between alternatives which in their inexperience seem comparable: to forego higher education, obtain a job and gain experience which is as good as formal education, or prepare for a specific occupation at university. In those cases where family and peer group are in favor of university the choice is clear. In others, individual factors will mediate for a university education. In many cases, however, young people with ability and opportunity will be swayed by the expectations of their group to go to work. In former periods when occupational choice was not so great, more of this group would see examples around them of people who had not succeeded satisfactorily in their occupations, or were obliged to work at occupations which were not congenial to them. The lack of these concrete examples, due to the fact that in the largest cities the immediate circle of acquaintance is likely to be a more homogeneous group than in smaller communities, means that a large percentage of young people between those who are "expected" to go and those who are "expected" not to go have a reduced vicarious occupational experience prior to making a decision regarding university-going.

The review of the literature showed two important considerations to be involved in individual mobility, aside from ability. The first was achievement motivation and the second was expectations. While the first is likely to be little affected by city size, it is suggested here that expectations are related. This could very well be part of the reason for

reduced university-going in the largest urban areas, but as mentioned the findings of the study permit only conjecture.

An alternative explanation relating to rural-urban migration is possible. It has been pointed out that a large proportion of rural people have moved to the city during the past twenty years. The proportion may be large enough to influence average years of schooling attained by residents, and university-going expectations of young people in the largest cities noted in the earlier decades may be diluted by the influx of rural people who have had a low rate. A generation may need to elapse before urban experience shows itself in a propensity for higher education.

12. The hypothesis stated that the disparity in representativeness of rural and urban areas would be diminished when the influence of urbanization was controlled. The time-distance index was used to evaluate this hypothesis. Since provincial population figures are not available in terms of the time-distance index or some other measure of urbanization, support for this hypothesis can only be inferred. It was found that when the influence of urbanization as measured by the time-distance index is taken into consideration, the pattern of the distribution relative to university attendance is directly in accordance with urban influence and not with community size.

13. With reference to the sex differential and place of residence, it was predicted that females from small communities and rural areas would have a higher representation than males. This prediction was based on the fact that rural females in the United States have a higher average educational level than males. It was found that while females were poorly represented for the first three decades, by 1951 their representativeness

approximately equalled that for males and in 1961 exceeded it. In fact, the increase in rural representativeness is primarily due to an increase in the number of females going to university from rural communities. This trend offers support to the hypothesis. It also suggests that the opportunity for university education for females in our society is dependent on a large measure of prosperity. When resources are scarce males have first opportunity to utilize them.

14. Regarding socio-economic status, in line with studies in the United States it was predicted that representativeness would be directly related to the status hierarchy. When socio-economic status was rated by the Blishen Occupational Class Scale the predicted relationship was found for 1931 and 1941, and for other years with only minor exceptions. In 1951 and 1961 Class 2 was less well represented than Class 3. Conjecture is that the reason for this discrepancy relates to the balance between opportunities for employment and expectations regarding university attendance as already discussed under point 11. Class 2 is comprised of students whose fathers are engaged in occupations ranging in status from mechanical engineers to retail trade managers. It is possible that some of the occupational categories included in this class would not have firm expectations regarding university-going, hence in periods of prosperity when varied employment is available, university-going may not be perceived as a "need" for personal economic well-being. Class 3, whose representativeness is higher in 1951 and 1961, is made up of reasonably well-paid but low prestige occupations, as for example forestry manager and photo-engraver. This class, it is suggested, is able to finance higher education and at the same time is only too well aware of the limitations imposed on those

who do not possess it.

15. It was also hypothesized that over time the representativeness of the lower socio-economic groups would increase. This was predicted mainly as a result of the increase in income and educational level in general which this province has enjoyed since 1951. While the prediction was found true for Class 5, it did not hold for Classes 6 and 7. These classes are poorly represented at university in all years and changes which have occurred appear to follow no logical pattern. The influences which have made for an increase for Class 5 appear not to be reaching the two lowest levels. It is possible that at these levels too many factors function to reduce university attendance: low income, high drop-out rates, lower scholastic ability, lack of expectations, and lack of knowledge of what is involved. Even with a change in one factor, the others appear to retain the status quo. Another possibility is that the rise in income level has likely had least effect on these classes. An increase need not mean that income is adequate.

16. Are females from the lower socio-economic levels better represented at university than males? This was found to be the case in an Ohio metropolitan district in 1950. In Alberta males are better represented than females for all years and in all socio-economic classes with only one minor exception.

17. It was also hypothesized that there would be a higher proportion of older students from the lower socio-economic levels than from the higher since it has been found that youth from the lower levels more often work for a few years before going to university. It was found that in Alberta, class position does not influence the age at which young people

go to university.

18. On a similar rationale to that for point 17 above, it was predicted that a larger proportion of married students would come from the lower socio-economic levels than from the higher. It was found that in Alberta married students are distributed in all classes.

19. With reference to religion it was hypothesized that lower socio-economic status Catholics would comprise a larger proportion of this level than Protestants. This hypothesis is based on the finding that lower-class Catholics have higher achievement motivation than lower-class Protestants. It was found that for the three lowest classes Catholics were over-represented relative to Protestants. This would appear to confirm the hypothesis but a warning must be sounded. It is possible that Catholics may represent a larger proportion of the provincial population in the lower three classes.

ADDITIONAL FINDINGS

Some of the findings were the result of exploration rather than hypothesis-testing.

For all religious groups males are better represented than females. Among females, only Jews are represented in accordance with their proportion in the province in 1961. Catholic males show a steady increase since 1921 while females have made a major increase since 1941. Both males and females of the Fundamentalist religions show a jump in representation after 1941. Protestants have declined in representation, particularly males, but since they are the largest single category, any gains on the part of other religions are likely to be at the expense of their

percentage figure.

With reference to religion and place of residence, Protestant representation has increased for rural areas but has decreased for urban areas and cities over 25,000. Catholics, on the other hand, have increased their representation from all community sizes. The Fundamentalist increase has been primarily from urban areas. Jews from cities of over 25,000 have shown more decline than Jews from urban areas in general.

Some information relative to the representativeness of the farm population is of special interest. Farm families are better represented at university than rural areas in general. By 1961 they are better represented than cities having a population of over 25,000. The increase, as in so many other instances, follows 1941.

SUMMARY EVALUATION

While there are similarities to the situation found in the United States, there are also differences. It would seem that while information collected for the United States is of real value here, the assumption that Alberta will follow suit in all details is unwarranted. This applies even if the assumption is made that Canada is twenty years behind the United States and make comparisons on that basis. Alberta is clearly not behind in all respects. For example, in the matter of equalization of religious representation Alberta appears to be ahead. The rural-urban differential is less marked, particularly with regard to farmers who by 1961 are attending university at a rate slightly ahead of the largest urban centers. Students of foreign-born fathers are not represented at university to a greater degree than students of Canadian-born fathers.

At this point the question arises as to whether Alberta is exceptional in these respects. Only additional studies in other parts of Canada can determine if Alberta is reflecting the Canadian scene in general.

It was stated in Chapter I that one purpose of this study was to evaluate the variables in an attempt to isolate any of prime importance. On the basis of the findings such an evaluation will be attempted.

Religion and the values assumed to be associated with it appear not to be critical in the decision to go to university. By 1961 there has been equalization of religious representation. The patterns of behavior usually ascribed to religious affiliation seem more likely to be the result of influences of the situation the group finds itself in. Hence, when the situational factors are modified, so too is the behavior.

Whether a father is foreign- or Canadian-born seems of little importance to university-going in Alberta.

Place of residence appears not to be so important as originally thought. In 1921 rural areas were considerably less well represented than urban areas, but over the years, with increasing urbanization in general, it has ceased to be so relevant. By 1961 the rank ordering of representativeness is urban communities of 1,000 to 25,000, farmers, cities over 25,000, and, finally, communities under 1,000. This order suggests that factors other than place of residence and propinquity are influencing the decision to go to university.

Socio-economic status as defined by the Blishen occupational class scale shows a consistent relationship to university-going for all years. Here too, there is some tendency for equalization, but the difference in representativeness between the highest and the lowest classes is

very large in all decades. The contention is that financial means are of direct importance only in the three lowest classes. Above that expectations of parents and peers, and competition from the job market become vital in the decision to go to university.

Over and above all others, sex remains an important variable. The equalizing tendencies noted for the other characteristics are in evidence here as well. It is apparent, however, that the expectations for females as compared to males differ in all time periods and for all social groups. Females, it seems, have the opportunity for higher education only after the male quota has been satisfied.

From the foregoing it is possible, to some degree, to assess the social mobility trends regarding higher level occupations. This study shows that there have been decided changes over time in the motivation and/or opportunity of various social groups to obtain university education. As a result, it is seen that since 1941 professional, managerial, and official personnel will, to a greater degree than formerly, be composed of people of the Catholic and Fundamentalist religions, rural people, those originating in Classes 4 and 5, females, or some combination thereof.

SHORTCOMINGS OF THE STUDY

This study is geared to two sources of data: university records and Canadian census publications. Both have limitations in the consistency and range of information provided. It would be highly desirable, for example, to have population figures based on occupation by religion, and on occupation by birthplace; to have census figures based on a consistent definition of rural-urban for each decade; and to have provincial population figures

based on the time-distance index in order to adequately assess the influence of urbanization on university attendance. On the other hand, more adequate student data on ethnic group affiliation and birthplace would make for a more complete study.

Another limitation of this study relates to the use of an occupation-based class scale to determine social class position. On page 99 the levelling process inherent in averages is mentioned. For a few occupations this levelling process virtually removes all meaning from the use of the occupational group. A case in point is farmers, who represent the largest single occupational group in Alberta. Farmers fall in Class 5 of the Blishen scale, but it is well known that if specific information were available regarding individual farmers the spread in income and education would be from Class 1 to Class 7. The data available do not make it possible to determine if university students from farm homes are coming from a cross-section of the farm social class range, or whether representativeness is biased in favor of some segment of it. Additional data are necessary for adequate analysis of university-going tendencies of the farm population.

A third limitation relates to lack of adequate information on migration. Table 3:1 provides figures on total number of migrants for the three decades from 1931 to 1961, but no information is available regarding the social characteristics of these migrants. To illustrate, during the period from 1931 to 1941 almost 42,000 people moved out of the province. In spite of this outward movement (or perhaps because of it) the proportion of young people at university in Alberta increased slightly. If these migrants were a cross-section of Albertans, migration would have little or no influence on the results of this study. If, however, the

social characteristics of the migrants were biased with respect to certain of the variables used, then the results would be biased relative to other years. Similarly, in the decade from 1951 to 1961, over 127,000 people entered Alberta. Again no information regarding the social characteristics of these people is available. It is possible that it is these migrants who have been responsible for the increase in university-going of certain social groups, and Albertans of longer residence have not enjoyed the upward mobility this study suggests. At the present time there seems to be no solution to this problem. Future studies on migration in Canada may make it possible to eventually evaluate the results of this study more completely.

A fourth shortcoming of this study relates to the fact that little information has been included on institutional changes, aside from a brief outline of the growth of the University of Alberta in Chapter IV. The desire to go to university is fostered at least in part by the knowledge that positions are readily available upon graduation, and by the feeling that one is doing something socially useful. Hence, when it becomes known that there is a shortage of, say, teachers or engineers, young people respond by acquiring the necessary training. On the other hand, institutions may function to limit the number of members in certain categories. Some faculties at university, for example, accept only a predetermined number of applicants regardless of how many may wish to gain access to the profession. Quotas are changed only as the needs of the profession change. This points out a third institutional requirement which may influence university-going, and that is changes in standards and educational requirements of various professions and other occupations. Information

regarding specific changes of this kind could also do much to clarify the results obtained in this study and place them in perspective.

Some information on achievement motivation, values, and expectations is highly desirable in order to better evaluate the role of the social characteristics studied relative to university attendance. It is likely that these orientations extend across social characteristic boundaries, and that the social characteristic is associated with the relative frequency of these orientations.

ALTERNATIVE WAYS OF APPROACHING THE PROBLEM

One alternative way of approaching the problem of determining the social characteristics of students at the University of Alberta in order to evaluate social mobility would be to directly test students presently at the university. Some of the limitations of the present study could be over-come by using a questionnaire. This method would make possible the collection of more complete information regarding social characteristics, including education of parents, family income, association patterns, and, in the case of students from farm homes, size of farm. In addition, information could be obtained regarding length of time in residence in present community and in Alberta. It would also be possible to gather information relative to values and expectations. McClelland's need achievement test could be administered to a sub-sample, and compared with protocols obtained from young people who did not go to university.

While the approach mentioned above is superior in many respects to the approach used in this study, it is less adequate insofar as it would not provide information over time and hence trends could not be determined.

A second possible approach would be to interview random samples of members of selected occupational groups in Classes 1 and 2 of Blishen's scale. Trends over time could be obtained by noting the age of the respondent. In this instance, comparison could be made of the social characteristics and educational attainment of a given age category with those of an older age category. Information regarding educational and occupational attainment of parents would supply information to make an evaluation of mobility trends possible. This approach would emphasize institutional changes.

The foregoing approach has certain advantages over the one used in this study. However, since comparisons to population figures could not legitimately be made, the representativeness of members having certain social characteristics could not be determined. However, each of these alternative approaches could provide answers to some of the questions raised by the approach utilized in this thesis.

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